

Welcome to your CDP Climate Change Questionnaire 2020

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Philip Morris International Inc. (PMI) is a leading international tobacco company. PMI has its executive headquarters in New York, US, has its primary listing on the New York Stock Exchange (NYSE: PM), and has its Operations Center in Lausanne, Switzerland PMI manufactures and sells cigarettes, smoke-free products and associated electronic devices and accessories, and other nicotine-containing products in markets outside of the U.S. We have a wide range of cigarette brands, including the world's best-selling international cigarette Marlboro. Our smoke-free product portfolio includes heat-not-burn and nicotine-containing vapor products. In 2019, PMI net revenues amounted to USD 29.8 billion excluding excise taxes on products worth USD 50.2 billion, on a like-for-like basis; 18.7% of PMI's net revenues in 2019 related to the sale of smoke-free products. PMI's 2019 total shipment volume for cigarette and heated tobacco units was 766.4 billion (706.7 billion cigarettes and 59.7 billion heated tobacco units).

We are building our future on smoke-free products that are a much better consumer choice than continuing to smoke cigarettes. Our vision is that these products ultimately replace cigarettes to the benefit of adult smokers, society, our company and our shareholders. This ambition is at the very core of our corporate strategy and sits atop our sustainability priorities. For PMI, sustainability means creating long term value while minimizing the negative externalities associated with our products, operations and value chain. We are committed to address the impact on the communities and the environment across our value chain. We have a global footprint: as of December 31, 2019, PMI had a workforce of around 73,500 people worldwide and operated 38 production facilities globally. In 2019, our tobacco was sourced from over 335,000 contracted farmers across 24 countries, and our products were sold in over 180 markets.

To help us prioritize our focus and resources in areas where we can have the greatest impact, we refreshed our sustainability materiality analysis in 2019. Climate protection, littering prevention and product eco-design and circularity are tier 1 environmental topics that are prioritized in our sustainability strategy.

Engagement beyond our own operations is key, as this is where the most significant sustainability impacts occur, especially when it comes to climate change and carbon emissions.

Our business has a significant, global supply chain organized by five main categories:

1. Agricultural products: ranging from tobacco growers to producers of other agricultural products, such as clove, menthol and guar gum.
2. Direct materials used to produce cigarettes and other tobacco products, such as acetate tow (for cigarette filters) and paper (both cigarette paper and for packaging materials).

3. Machines for our cigarette and heated tobacco products factories, a highly specialized industry.

4. Electronic devices for heated tobacco and vapor products.

5. Goods and services that are not specific to the tobacco business, but essential for any business, such as office equipment etc.

As a responsible business, we want to understand and continuously address potential sustainability issues in our global supply chain. We are working with business partners to proactively identify, manage, and reduce risks, and create shared value. The description above is a summary and is qualified in its entirety by reference to the full text of PMI's Annual Report on Form 10-K for the year ended 2019 filed with the U.S. Securities and Exchange Commission, and the full text of PMI's Integrated Report 2019.

Remarks for this disclosure:

-In this submission, "PMI," "we," "us" and "our" refer to Philip Morris International Inc. and its subsidiaries;

-In this submission, we reference information reported in the 2020 Proxy Statement dated March 26th, 2020; 10-K filed February 7th, 2020 with the SEC; and PMI's Integrated Report 2019;

-Trademarks and service marks in this submission are the registered property of, or licensed by, the subsidiaries of Philip Morris International Inc;

-Expectations, aspirational targets and goals set forth in this submission do not constitute financial projections;

-Smoke-Free Products or Reduced-Risk Products (RRPs) - the terms PMI uses to refer to products that present, are likely to present, or have the potential to present less risk of harm to smokers who switch to these products versus continued smoking. PMI has a range of RRP's in various stages of development, scientific assessment and commercialization;

-Materiality: In this submission and in related communications, the terms "materiality," "material" and similar terms, when used in the context of economic, environmental, and social topics, are defined in the referenced sustainability standards, and are not meant to correspond to the concept of materiality under the U.S. securities laws and/or disclosures required by the US Securities and Exchange Commission.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting year	January 1, 2019	December 31, 2019	No

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

- Albania
- Algeria
- Argentina
- Armenia

Australia
Bangladesh
Bosnia & Herzegovina
Brazil
Bulgaria
Canada
Chile
China
China, Hong Kong Special Administrative Region
China, Macao Special Administrative Region
Colombia
Costa Rica
Croatia
Czechia
Denmark
Dominican Republic
Ecuador
Egypt
El Salvador
Finland
France
Georgia
Germany
Greece
Guatemala
Hungary
India
Indonesia
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kuwait
Lebanon
Lithuania
Malawi
Malaysia
Mexico
Morocco
Mozambique
Netherlands
New Zealand
Nicaragua
Nigeria

North Macedonia
Norway
Pakistan
Panama
Paraguay
Peru
Philippines
Poland
Portugal
Republic of Korea
Republic of Moldova
Réunion
Romania
Russian Federation
Senegal
Serbia
Singapore
Slovakia
Slovenia
South Africa
Spain
Sweden
Switzerland
Taiwan, Greater China
Thailand
Tunisia
Turkey
Ukraine
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland
United Republic of Tanzania
United States of America
Uruguay
Venezuela (Bolivarian Republic of)
Viet Nam

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-AC0.6/C-FB0.6/C-PF0.6

(C-AC0.6/C-FB0.6/C-PF0.6) Are emissions from agricultural/forestry, processing/manufacturing, distribution activities or emissions from the consumption of your products – whether in your direct operations or in other parts of your value chain – relevant to your current CDP climate change disclosure?

	Relevance
Agriculture/Forestry	Elsewhere in the value chain only [Agriculture/Forestry/processing/manufacturing/Distribution only]
Processing/Manufacturing	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Distribution	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Consumption	Yes [Consumption only]

C-AC0.6b/C-FB0.6b/C-PF0.6b

(C-AC0.6b/C-FB0.6b/C-PF0.6b) Why are emissions from agricultural/forestry activities undertaken on your own land not relevant to your current CDP climate change disclosure?

Row 1

Primary reason

Do not own/manage land

Please explain

We don't own the tobacco farms or the land that supply us with tobacco leaf, but the farmers who run them are a crucial part of our economic, environmental, and social footprint. We are working directly with them and our suppliers to promote sustainable farming and climate change mitigation initiatives as part of our Good Agricultural Practices (GAP) program.

C-AC0.7/C-FB0.7/C-PF0.7

(C-AC0.7/C-FB0.7/C-PF0.7) Which agricultural commodity(ies) that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodity

Tobacco

% of revenue dependent on this agricultural commodity

More than 80%

Produced or sourced

Sourced

Please explain

100% of PMI heated tobacco units, cigarettes and other nicotine-containing products require tobacco

Agricultural commodity

Timber

% of revenue dependent on this agricultural commodity

More than 80%

Produced or sourced

Sourced

Please explain

100% of PMI heated tobacco units, cigarettes and other nicotine-containing products require timber derivative products. Additionally, PMI uses board and paper for packaging of the majority of PMI's products.

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board-level committee	PMI's Board of Directors (BoD) and its Committees, incl. the Nominating and Corporate Governance Committee (NCGC) and Audit Committee of the BoD, are

	<p>responsible to foster the long-term success of the company including setting broad corporate policies, strategic direction, and overseeing management, which is responsible for daily operations. The BoD considers that environmental, social and governance (ESG) factors, including climate change, are relevant to the company's business and long-term success.</p> <p>As an example of climate-related decision-making process in 2019, the BoD and its Committees approved the company's annual budget and received updates on the company's performance and targets against the budget throughout the year. The annual budget factors in resources required to deploy GHG emission initiatives to achieve our carbon neutrality goal.</p> <p>Additionally, PMI's BoD recently released our Statement of Purpose, which acknowledges that certain key stakeholders (e.g. employees, investors, customers, civil society) are fundamental to its business transformation toward a smoke-free future.</p> <p>This document underscores that PMI respects communities around the world where it operates. PMI works hard to protect the environment through sustainable practices across its businesses and to address both existing social and environmental challenges pertaining to its business transformation. As part of these initiatives, PMI works towards lowering carbon emissions as a core element of PMI's sustainable corporate strategy and decision-making processes.</p> <p>As PMI's transition to a smoke-free future will require more energy to produce heated tobacco units compared to cigarettes and it could result in increased GHG emissions, it is important to reduce this potential impact through effective projects. Starting from 2018, the BoD mandated the NCGC of the Board, composed by 6 BoD members, at the time of the publication of the 2020 proxy statement, to oversee PMI's sustainability strategies and performance, including to provide recommendations to executive management on climate change-related issues, and on a set of initiatives aiming at actively reduce potential negative impacts of our business on the environment.</p> <p>In 2019, the NCGC reviewed the 2018 Sustainability Report which represent the main external communication of PMI on sustainability performances including climate change.</p>
Board-level committee	<p>The Audit Committee of the BoD, composed by 6 BoD members, at the time of the publication of the 2020 proxy statement, oversees the assessment and management of the company risks including to provide recommendations to executive management on those related to climate change such as natural disasters, water scarcity and agricultural instability, which may lead to increased pressure on natural resources and conflict with other users, affect our direct operations and/or our supply chain, and thus potentially impacting PMI's ability to operate.</p>

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Overseeing major capital expenditures, acquisitions and divestitures</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>The Board of Directors (BoD) oversees PMI's full range of activities including establishing broad corporate policies setting strategic direction, and overseeing management. The BoD is responsible for the day-to-day operations of the company and takes into account climate-related issues as part of their oversight process. Part of the BoD's oversight is focused on management's efforts to enhance shareholder value responsibly and sustainably. The BoD believes that environmental factors, including those related to climate change, social, and governance (ESG) factors are relevant to the company's business and important to PMI's long-term success. Those factors are part of the responsibility of the Board and considered in the evaluation of the annual performances of the company and its management.</p> <p>The BoD approves the company's annual budget and receives updates on the company's performance and targets against the budget throughout the year including those related to the achievement of sustainability and climate change targets. The BoD has established various standing Committees to assist with the performance of its responsibilities and is regularly informed on future plans, and significant issues affecting the business, including the climate-related ones. The BoD meets typically 6 times per year with additional meetings held as necessary. The BoD is advised on climate change-related issues by the Nominating and Corporate Governance Committee of the BoD, which oversees the Company's sustainability strategies and performance. The committee met 3 times in 2019. The BoD oversees the management of risks relating to the Company's business. Risk oversight is conducted both by Committees of the BoD as well as by the full BoD. Management has identified and prioritized a number of key enterprise risks and, as part of the risk management process, has established</p>

		<p>a Corporate Risk Governance Committee (“CRGC”) comprising the COO, the CFO, the Vice President and Controller, the Vice President Corporate Audit, and the Vice President and Chief Ethics & Compliance Officer. Management reports on these risks to the appropriate Committee and to the full Board when appropriate. The Company conducted a full-scale reassessment of the strategic enterprise risk management program in 2018, assigned ownership of each of the prioritized risks to a member of Company Management, and the oversight of their management to a particular Board Committee; the same ownership assignment continued in 2019. The Audit Committee of the BoD was assigned to oversee the management of climate change prioritized risk as it could result in natural disasters, water scarcity, agricultural instability, which may impact PMI’s ability to operate; the Committee met 7 times in 2019. A member of the Company Management, the Senior Vice President Operations, was tasked with the responsibility to address the climate change risk, including physical climate and water related risks.</p>
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C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify Senior Vice President, Operations	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Operating Officer (COO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Other committee, please specify External Engagement Committee	Other, please specify Overseeing PMI’s sustainability work	Quarterly
Chief Sustainability Officer (CSO)	Other, please specify Leading the integration of sustainability, including environmental topics, across PMI.	Annually

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

A member of the Company Management (CM), the Senior Vice President Operations (SVP Operations) has been tasked with responsibility to address climate change risks and opportunities across the company's activities, including physical climate, and transition risks. Our SVP Operations reports directly to PMI's Chief Operating Officer (COO) and is delegated with operational responsibility, including maintaining robust business resiliency, risk assessment processes, and strategies to support business continuity. Our SVP Operations is responsible to ensure that climate change risks and opportunities are assessed, managed, integrated into long-range plan and budget review process, and reported to the appropriate Committee and the full Board throughout the year. PMI's SVP Operations is strategically positioned within the company's structure to be able to effectively engage the Board and specific departments on climate issues. For this reason, he was assigned with responsibility to address climate change risks that could impact PMI's ability to operate such as natural disasters, water scarcity, change in weather patterns and agricultural instability, which are considered during the annual Integrated Risk Assessment (IRA) process. SVP Operations holds the responsibility that climate-related issues are integrated into normal business activities; this forms part of our annual Long-Range Planning process which reviews and sets business direction, objectives and performance appraisal process. In 2019, the strategy was developed/reviewed based on prior year performance, sustainability commitments and objectives, regulatory/external developments, risk/opportunity assessments, stakeholder interest and business changes, through functional management teams up to our CM. CM provided the Board with insights on the reassessment process throughout 2019. SVP Operations leads the Operations Sustainability function reporting directly to him, which drives environmental strategies and their full integration into the business, due to the strategic importance of climate-related issues within our operations. He receives updates on progress towards objectives and their achievement, in monthly meetings with the Operations Management Team reporting to him, and during quarterly functional reviews of the Operations Sustainability function.

Our COO is also a member of PMI's CM and reports to the CEO; he is updated regularly on climate change issues by the SVP Operations as they may impact PMI's ability to operate and effectively addressing these risks is critical to the achievement of PMI's strategic objectives. In 2019, the COO and SVP Operations were the highest management level responsible for climate-related issues. They were both responsible for monitoring and reviewing PMI's objectives, strategies, and action plans related to climate change with the CEO, and they reported their findings to the Nominating and Corporate Governance Committee (NCGC) and Audit Committee of the BoD."

The External Engagement Committee (EEC) – composed of the company's CEO, COO, President External Affairs and General Counsel and SVP Operations as well as senior leaders from various functions – has the mandate for developing and deploying strategies and programs to propel better choices for consumers. Its mandate includes the oversight of PMI's

sustainability work, including climate-related issues. PMI's sustainability materiality assessment was updated in 2019, re-prioritizing the most relevant sustainability topics for PMI.

To help manage these topics from a global and sustainability perspective, the EEC decided on Jan 9, 2020, to allocate CM ownership for each priority sustainability topic (e.g. mitigate climate change decarbonizing our value chain to SVP Operations). The respective CM members are expected to organize regular topic specific "sustainability board" meetings to review progress and decide on next steps related to the sustainability topic for which they are accountable. The Chief Sustainability Officer (CSO) will participate and support the respective CM members at these sustainability board meetings.

In 2019, the CSO, reported to the President External Affairs and General Counsel, a member of the CM. The CSO leads the integration of sustainability, including climate-related issues, across our business, heads and manages PMI's Corporate Sustainability Team. He is a member of the External Engagement Committee (EEC) and, at least once a year, updates the NCGC of the Board on progress.

From an operational perspective, our Operations Sustainability and Corporate Sustainability functions coordinate the company's climate change-related activities. Most of the coordination takes place in the context of sustainability working groups and with local market coordinators. This helps ensure that our global strategies and programs are monitored, assessed and implemented down to the market level and that local realities are reflected in our global efforts.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Provide incentives for the management of climate-related issues		Comment
Row 1	Yes	

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	PMI's compensation and benefits program supports business and financial objectives, including the achievement of sustainability efforts. In its transformation towards a smoke-free future, PMI has defined strategic priorities, which embed our operational sustainability efforts to build global societal support for RRP. Operating with excellence and protecting the environment are strategic pillars, covering tier 1 materiality topics such as

			<p>sustainable supply chain management and climate protection.</p> <p>In PMI the Board of Directors (BoD) approves the company's annual budget and receives updates on the company's performance and targets against the budget throughout the year. The BoD considers that environmental, social and governance (ESG) factors, including climate change as relevant to the company's business and long-term success. These factors are part of the responsibility of the Board and are considered in its evaluation of the annual performance of the company and its management.</p> <p>Accordingly, progress against the strategic priorities is included in our overall performance rating which determines the cash bonuses for the management group and other eligible employees. Executive management covering sustainability, including EHS topics, are specifically appraised each year for performance against targets, including those relating to climate change e.g. emissions reduction target. We discuss our executive compensation program in more detail in our proxy statement filed with the U.S. Securities and Exchange Commission.</p>
<p>Corporate executive team</p>	<p>Monetary reward</p>	<p>Emissions reduction target</p>	<p>PMI's compensation and benefits program supports business and financial objectives, including the achievement of sustainability efforts. In its transformation towards a smoke-free future, PMI has defined strategic priorities, which embed our operational sustainability efforts to build global societal support for RRP. Operating with excellence and protecting the environment are strategic pillars, covering tier 1 materiality topics such as sustainable supply chain management and climate protection.</p>

			<p>In PMI the Board of Directors (BoD) approves the company's annual budget and receives updates on the company's performance and targets against the budget throughout the year. The BoD considers that environmental, social and governance (ESG) factors, including climate change as relevant to the company's business and long-term success. These factors are part of the responsibility of the Board and are considered in its evaluation of the annual performance of the company and its management.</p> <p>Accordingly, progress against the strategic priorities is included in our overall performance rating which determines the cash bonuses for the management group and other eligible employees.</p> <p>Executive management covering sustainability, including EHS topics, are specifically appraised each year for performance against targets, including those relating to climate change e.g. emissions reduction target. The assessment of EHS results (which includes annual performance against our carbon footprint reduction targets) directly influences the annual performance rating of our SVP Operations and certain members of Company Management including the COO. This impacts the annual cash incentive compensation for those roles.</p>
Management group	Monetary reward	Emissions reduction target	<p>PMI's compensation and benefits program supports business and financial objectives, including the achievement of sustainability efforts. In its transformation towards a smoke-free future, PMI has defined strategic priorities, which embed our operational sustainability efforts to build global societal support for RRP. Operating with excellence and protecting the</p>

		<p>environment are strategic pillars, covering tier 1 materiality topics such as sustainable supply chain management and climate protection.</p> <p>In PMI the Board of Directors (BoD) approves the company's annual budget and receives updates on the company's performance and targets against the budget throughout the year. The BoD considers that environmental, social and governance (ESG) factors, including climate change as relevant to the company's business and long-term success. These factors are part of the responsibility of the Board and are considered in its evaluation of the annual performance of the company and its management.</p> <p>Accordingly, these results are included in our overall performance rating which determines the cash bonuses for the management group and other eligible employees.</p> <p>Management group covering sustainability, including EHS topics are specifically appraised each year for performance against targets, including those relating to climate change e.g. emissions reduction target. The assessment of EHS results (which includes annual performance against our carbon footprint reduction targets) directly influences the annual performance rating of Management group including for example the Chief Procurement Officer (CPO) and its business unit managers.</p> <p>This covers the annual cash incentive compensation elements for those roles. For example, specifically to Chief Procurement Officer, sustainability including climate-related issues is one of the top five objectives the variable</p>
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			compensation of our CPO is determined upon.
Chief Sustainability Officer (CSO)	Monetary reward	Behavior change related indicator	Our CSO, formally appointed in early 2019, is responsible for driving Sustainability, including climate-related issues, across the organization: all functions and markets. This covers behavioral change towards sustainability, including those relating to climate change, within the company.
Buyers/purchasers	Non-monetary reward	Environmental criteria included in purchases	Tobacco leaf volume allocation depends, among other factors, on the performance of leaf suppliers that includes Good Agricultural Practices (GAP) program implementation as well as achievement of strategic initiatives targets such as carbon footprint reduction. If leaf suppliers in a region or a market perform well, the buyer responsible for this region/market will not be limited by GAP underperformance in his purchase options, and this would not influence the achievement of his annual objectives and therefore his performance evaluation.
Energy manager	Monetary reward	Energy reduction target	Managers and team members have energy efficiency and carbon footprint reduction targets set out in their annual performance objectives and are assessed against those targets in their annual performance appraisal. Energy efficiency and CO2 emissions reduction targets are set annually for at least three years for all of our manufacturing facilities.
Environment/Sustainability manager	Monetary reward	Energy reduction target	Managers and team members have energy efficiency and carbon footprint reduction targets set out in their annual performance objectives and are assessed against those targets in their annual performance appraisal. Energy efficiency and CO2 emissions reduction targets are set annually for at least

			three years for all of our manufacturing facilities.
Procurement manager	Monetary reward	Supply chain engagement	Procurement managers have energy carbon footprint engagement targets set out in their annual performance objectives and are assessed against those targets in their annual performance appraisal.
All employees	Monetary reward	Other (please specify) Climate change mitigation projects	Specific company awards such as the CEO Award and Recognition for Excellence Awards, which are either cash or stock, are available for Energy Managers, EHS Managers, project teams and other employees who are responsible for climate change related initiatives and improvements.
All employees	Monetary reward	Emissions reduction project	Specific company awards such as “Above and Beyond the Call of Duty” (ABCD) awards for best practice initiatives in the areas of climate change, energy and carbon reduction.
All employees	Non-monetary reward	Behavior change related indicator	Annually many affiliates continue to perform voluntary awareness and promotion campaigns/programs in order to increase employees’ active participation in EHS programs and to make carbon footprint reduction part of the company's culture. Awards and recognition for best practices form a core element of such campaigns.
Other, please specify Operations employees (the largest business unit within PMI, around 40,000 employees)	Non-monetary reward	Emissions reduction project Energy reduction project Efficiency project Supply chain engagement	Operations employees also have the opportunity to earn awards for best practice initiatives in the areas of climate change, energy and carbon emission reduction. This forms part of our Operations Department ABCD Award and “Lead, Lean and Learn” program which encourages innovation, continuous improvement and employee engagement.
Other, please specify Employees in our Operations Center	Monetary reward	Behavior change related indicator	Employees from the Operations Center are encouraged to use public transportation. The annual fee for half-

			price railway subscription as well as a monthly public transport allowance is paid by the company for those employees who choose to use public transportation rather than commute in their private cars to work, contributing to reduce our carbon emission footprint.
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C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	1	We evaluate short-term profits and losses as part of our annual financial reporting.
Medium-term	1	5	Our annual Long-Range Planning process reviews and sets business direction over a 3 to 5-year horizon. Despite being called PMI's Long-Range Plan, it equates to "medium-term" in CDP terminology.
Long-term	5	15	The physical risks of climate change have the potential to materially impact our business. Therefore, we have conducted climate risk assessments with 2030 time horizon. We chose this time horizon because it is hard for climate models to be more granular and to accurately interpret the data in a longer period.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Alongside physical impacts such as rising sea-levels and changing weather patterns, there are transition risks such as new carbon-related regulations and taxes, changes in manufacturing technology and evolving consumer preferences, which can affect business units or the organization due to stakeholder or customer concerns. Being at the forefront of addressing the global challenge of climate change also presents opportunities. Some correlate to good practices such as energy-use reduction and the protection of forests and waterways; others arise through product eco-design and adaptation measures. PMI, alongside many of its

suppliers, is working within a context of stabilizing the global temperature rise to below the internationally agreed 1.5-degree Celsius scenario. We understand the potential impacts of climate change across all areas of our operations, particularly upstream in our supply chain. The climate crisis, as acknowledged by the international community, threatens livelihoods, in particular the most vulnerable people around the world. It impacts human population movement, biodiversity, access to water, global health, food security, and other environmental changes such as soil degradation and desertification. Beyond its human repercussions, climate change could threaten business continuity. This is especially the case for businesses involving an agricultural supply chain. For PMI, costs of raw materials such as tobacco leaf and cloves may rise, and both consumers and our employees are becoming increasingly sensitized to the environmental impact of corporate actions. Upfront expenditures with longer-term returns are required. At the same time, PMI's efforts to reduce its GHG emissions, such as through increased energy efficiency, could alleviate potential costs and create a competitive advantage by meeting or exceeding the expectations of consumers, employees, and other stakeholders. A substantive financial or strategic impact can vary depending on which of the above aspects of the business are considered as impacted and the potential combination of them. The level of criticality will have different threshold when comparing, for example, impact within our agricultural supply chain (engagement with hundreds of thousands of farmers) and the development of new products or the compliance to regulations on carbon emissions in our factories. Therefore, in PMI, as explained in the below paragraph, we refer to a variety of factors that independently or in combination may affect the achievement of our smoke-free vision.

PMI evaluates a "substantive impact" (e.g.: financial or strategic impact) based on a variety of factors and quantitative indicators including but not limited to the potential impact on financial performance as well as other strategic factors that may affect PMI's efforts and/or delivery towards a smoke-free future, ultimately replacing cigarettes with smoke-free products. The impacts reported as substantive strategic or financial impacts are defined as those identified and prioritized by management in our value chain, through key enterprise risks based on four risk dimensions: the impact a risk could have on the organization if it occurs, the likelihood a risk will occur, the velocity with which a risk would affect, the organization if it occurs, and the interconnectivity of a risk with other risks, that exceed defined thresholds at the corporate level. As part of the Company's annual Integrated Risk Assessment (IRA) process, we have in place an extensive risk control program by which we assess the climate change physical risks. Specifically, in our operations, locations with values exceeding \$30 million range are surveyed by engineers from our property insurer, who provide recommendations to us on the magnitude of environmental risks, for example risk of flooding that could cause reduction or disruption in production capacity in specific locations, and the cost of management. Recommendations for risk management are given if the expected reduction in the financial impact of the risk exceeds the cost to meet the recommendations by a factor of 10 or more. Internally, we focus on recommendations above the \$50 million range as management of identified risks can involve substantial capital investment and disruption to operations including our supply chain. In 2020+ risk forecasting terms, in relation to our tobacco supply chain, we assumed as substantive risks those with a potential impact in excess of \$5 million or a raw material impact in excess of 1000 metric tons of tobacco leaves. This definition is applicable to PMI's agricultural supply chain.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

PMI has an interconnected three-step assessment process in place to identify, assess and manage risks and opportunities that can have a substantive financial or strategic impact on the company's operations. The impacts reported as substantive strategic or financial impacts are defined as those identified and prioritized by management in our value chain, through key enterprise risks based on four risk dimensions: the impact a risk could have on the organization if it occurs, the likelihood a risk will occur, the velocity with which a risk would affect the organization if it occurs, and the interconnectivity of a risk with other risks, that exceed defined thresholds at the corporate level.

E.g., in 2020+ risk forecasting terms, in relation to our tobacco supply chain, we assumed as substantive risks those with a potential impact in excess of \$5M or raw material impact in excess of 1000 metric tons of tobacco leaves.

This process takes place every year, covering short, medium- and long-term time horizons. Each step involves multiple stakeholders and results in different types of actions as described below:

1) Strategic Enterprise Risks (SER) management - The SER is PMI's highest-level risk and opportunity assessment process which is conducted by both the Committees of the Board with respect to their areas of responsibility as well as by the full Board. To identify and assess climate-related risks, PMI Company Management (CM) has identified and prioritized key enterprise risks based on four risk dimensions as mentioned above: impact, likelihood, velocity and interconnectivity.

The SER covers a wide range of topics that are relevant to PMI's value chain such as environmental, economic, geopolitical, technological and societal ones. PMI CM

conducts a reassessment of SER on a yearly basis. Ownership of each of the prioritized risks is assigned to a member of CM, and oversight of the management of each risk is assigned to a specific Board Committee or to the full Board. Results from the SER identified climate change as a substantive issue that could result in natural disasters, water scarcity, change in weather patterns, agricultural instability, reputational damage, shifts on market preferences and other impacts that could directly affect PMI's ability to operate. Our Senior Vice President (SVP) Operations has been tasked with responsibility to address climate change risks and opportunities across the company, including physical climate, and transition risks. Our SVP Operations is responsible to ensure that these risks and opportunities are assessed, managed, integrated into long-range plan and budget review process, and reported to the appropriate Committee and the full Board throughout the year. The identified SER are considered during the annual Integrated Risk Assessment if they are deemed to have a substantive financial or strategic impact on the business.

2) Integrated Risk Assessment (IRA) process - The IRA is PMI's second process to identify and manage risks and opportunities in direct operations and supply chains. The IRA builds on company-wide findings from the SER to further assess how these can impact PMI's operations at a department level on an annual basis. When it comes to climate related events, PMI focuses on the evaluation of physical and transition risks as per recommendation of the Taskforce on Climate-Related Financial Disclosures (TCFD). To date, PMI has mapped 149 climate change risks and opportunities across materiality and certainty, and classified in: 'Proactive', 'Reactive', 'Non-material', 'Watch' and 'Potential quick wins to be integrated to the business'. After further analysis, PMI is now focusing on the 'Proactive' category as it was identified that these events have the highest certainty and materiality level. As part of the IRA, PMI developed an extensive risk control program to assess and mitigate physical risks from climate change; locations exceeding \$30M range are surveyed by engineers from our property insurer, who provide risk management recommendations.

3) Environmental Risk Management (ERM) process - The ERM is PMI's main process to identify and manage substantial risks and opportunities at the operational level. The ERM uses findings from the IRA to further analyze operational implications from the identified risks and opportunities. Results from the ERM are used by PMI's stakeholders to develop programs, roadmaps, action plans, targets and budgets to either prevent substantial risks from materializing, or to seize opportunities. Results from the ERM are monitored by each of PMI's relevant department and communicated to the relevant stakeholder on a monthly basis, for example to the SVP Operations. In the case of climate change, the SVP Operations is responsible for communicating progress on PMI's climate-related actions to the Board and its Committees, and subsequently re-inform steps 1 and 2 of process.

An example of how PMI's processes have been applied to the identification and management of transition risks and opportunities is the development of PMI's Science Based Target. As part of the SER and the IRA, PMI's Board, its Committees and CM identified a critical need to meet the 2015 Paris Climate Agreement Goals. Failure to achieve these goals can result in substantial impacts to global agricultural supply chains, and subsequently impact PMI's operations. While acknowledging these risks, PMI recognized that corporations had concrete opportunities to lead climate action. In

2016, PMI developed emission reduction targets for its scopes 1, 2 and 3 which were submitted to the Science Based Targets Initiative and subsequently approved in 2017. In 2020 we will submit our revised absolute reduction targets aligned with the 1.5°C scenario. By committing to climate action in line with best climate science, PMI not only seized opportunities related to operational efficiency (e.g.: energy efficiency, on-site investments for renewables generation and/or sourcing), but has been able to mitigate transition risks such as reputational impacts, shifts in market preferences and policy changes related to inaction.

Another example of how PMI's processes have been applied to identify and respond to physical climate risks and opportunities is PMI's Good Agricultural Practices (GAP) program. GAP program is PMI main initiative to tackle physical climate risks within the company's tobacco supply chain, as identified through the SER and IRA. GAP program provides suppliers with a set of climate-smart agriculture practices, action plans and monitoring tools to promote a supply chain that is more resilient to impacts from climate change such as drought, floods, and fires. GAP program also supports farmers switching to low carbon curing fuels, which minimizes their dependency on fossil fuels for curing and potential impacts due to price fluctuations. In 2019, PMI engaged 335,000 tobacco leaf suppliers and contracted farmers through GAP.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	<p>We are subject to international, national and local environmental and climate-related laws and regulations in the countries where we operate; regulations which are considered in our climate-related risk/opportunity assessment process.</p> <p>In 2019 we evaluated climate change risks following TCFD recommendations; this allowed the identification of transition risks for PMI related to an increase in carbon pricing affecting operations manufacturing and logistics, and regulation on energy efficiency requirements affecting our factories processes in the short term.</p> <p>Examples of these risks are:</p> <ul style="list-style-type: none"> - The expansion of the EU emissions trading scheme will include additional PMI sites – i.e., our factory in Romania will be included in 2020 due to increased production capacity. <p>This could lead to an increase in PMI's operating costs of purchasing allowances in the future, particularly in high emitting locations in EU.</p> <ul style="list-style-type: none"> - The expansion of carbon pricing mechanism across all the markets in which PMI operates. The countries we are particularly monitoring are the ones with a local ETS scheme already in place, i.e. Canada, Switzerland, South Africa and South Korea. In those countries the risk is rather moderate at the moment due to the emission profile of our

		<p>manufacturing sites vs. the minimum threshold needed to have a significant financial impact. We closely monitor regulations on minimum threshold and signals of changes in these schemes, and we consider those aspects in the strategic deployment of our manufacturing and supply chain networks including investments to increase energy efficiency.</p> <p>We monitor current regulations in those markets also due to the potential risk they can pose in case we would decide to expand the production capacity of our manufacturing sites located there; especially in relation to our RRP products which are more energy intensive compared to conventional products and resulting in increased GHG emissions.</p> <p>The potential impact of this risk is related to higher operating costs.</p> <ul style="list-style-type: none"> - Increase of carbon prices within the EU Trading Scheme which would have a potential impact in our operations if it materializes. This would expose our operations to requirements for increased capital expenditures, taking in consideration the potential for combined heat and power, renewable energy and buildings upgrade, to reduce emission profiles of our sites and mitigate the risk posed by EU ETS carbon prices increase impacting operating cost.
<p>Emerging regulation</p>	<p>Relevant, always included</p>	<p>Our operations throughout the globe are subject to various climate-related regulations, which we consider in our climate-related risk/opportunity assessment process. There is a clear international trend towards proliferating and stricter climate-related regulations which could increase our operational costs.</p> <p>In 2019, the evaluation of climate change risks aligned on TCFD recommendations, allowed the identification of mid and long term transition risks for PMI business related to technology.</p> <p>In this category, PMI mostly incurs risks related to an increase in carbon pricing affecting operations manufacturing and logistics, and regulation on energy efficiency requirements affecting our factories or mechanized farming processes in the mid and long term.</p> <p>Examples of risks include:</p> <ul style="list-style-type: none"> - EU Emission Trading Scheme (ETS): risks linked to widening the EU ETS carbon trading market to include EU accession countries where PMI has facilities. - Energy taxes; regulation on Energy Efficiency; Infrastructure/Buildings Directive; promoting energy reduction at source (like in our EU factories); regulations in emerging market, exposing our operations to requirements for increased capital expenditures taking in consideration the potential for combined heat and power; renewable energy and buildings upgrade.

		<p>- Regulations on energy efficiency in the heavy machinery and heavy-duty transport sector are expected to tighten, and the speed of this change in regulation will be heavily depending on the rate of low carbon transition. Mechanical equipment used on farms is currently both energy intensive and heavily reliant on fossil fuels as an energy source. In particular, these regulations could result in an increase in the speed of the replacement cycle of machinery and equipment by the farmers resulting in higher annual expenditure on replacement to keep pace with efficiency standards. This in turn would cause an associated indirect increase in procurement costs as the price for tobacco will respond to upward pressure on the cost of production.</p> <p>Those regulations could also expose our operations to requirements for increased capital expenditures to mitigate their impact. affecting operating cost.</p>
Technology	Relevant, always included	<p>In 2019 the evaluation of climate change risks aligned on TCFD recommendations allowed the identification of mid and long term transition risks for PMI business related to technology.</p> <p>The identified risks relate to technology improvements resulting in existing equipment becoming either non-compliant with energy regulations and/or too expensive to run due to the higher costs of fossil-fuel based carburant within our own operations and supply chains. Existing equipment would need to be replaced with associated costs of adopting new technologies, exposing our operations to requirements for increased capital expenditures. In addition, in 2020 we submitted our revised absolute reduction Science Based Targets (SBT) aligned with a 1.5 °C scenario for validation.</p> <p>PMI's decarbonization path to achieve new SBTs will need to be more aggressive, while RRP production growth will drive increase in energy consumption and related GHG emissions. A strong investment in new technologies will be needed to achieve the decarbonization path that we have committed to, with the risk that despite our investments we may not be able to achieve our SBT commitments due to RRP's being more energy voracious.</p> <p>PMI's risks also relate to not following technological advancements (e.g. renewables adoption), investing in obsolete technologies (e.g. non-regenerative agricultural practices) and higher costs/polluting technologies (e.g. fossil-fuel based technologies) when developing new drivetrain technologies, new farming and curing techniques and equipment, new technologies in retail and new product design.</p> <p>All these risks exist, and PMI needs to ensure neither it nor its suppliers invest in obsolete technology and remains up to date with technological development within its own operations and supply chains. This can be costly and potentially impact operating cost if not mitigated.</p> <p>We continuously assess risks related to technological improvements</p>

		<p>that support the transition to a lower-carbon and energy-efficient business model.</p> <p>An example of this risk is related to our new electronics manufacturing suppliers which are key to achieve our smoke-free future goal. We assessed through LCAs the risk around carbon footprint increase due to new electronics suppliers and the impact if they would not invest in low carbon technologies generating significant emissions in their processes and resulting in PMI potentially not being able to meet its carbon reduction SBT commitments.</p>
<p>Legal</p>	<p>Relevant, always included</p>	<p>We are subject to international, national and local environmental laws and regulations in the countries we operate. We have specific programs across our business units designed to meet applicable environmental compliance requirements to reduce our carbon footprint, wastage, water and energy consumptions and prevent any climate related mitigation claims.</p> <p>Our subsidiaries expect to continue and/or increase investments in order to drive improved performance and maintain compliance with environmental laws and regulations. We assess and report the compliance status of all our legal entities on a regular basis. Based on the management and controls we have in place and our review of climate change risks (both physical and regulatory), environmental expenditures have not had, and are not expected to have, a material adverse effect on our consolidated results of operations, capital expenditures, financial position, earnings or competitive position.</p> <p>In 2019, we finalized our evaluation of climate change risks, aligned with TCFD recommendations, which, allowed for the identification of mid and long-term legal transition risks for PMI business, including those triggered by changes in climate policy or regulations. Compliance with such policies and regulations changes could result in increased operational costs for PMI.</p> <p>Additional examples of how legal risks could affect PMI's operations include:</p> <ul style="list-style-type: none"> - increasing procurement costs linked to higher raw materials and cost of production; - impacting logistics and operations through increased carbon pricing; - affect mechanized farming processes through new regulation on energy efficiency requirements; and - impacting tobacco curing activities through additional regulation on fuel type. <p>PMI has not been subject to material fines, in the reporting year, related to environmental regulations specific to climate change.</p>

Market	Relevant, always included	<p>In 2019, we finalized our evaluation of climate change risks aligned with TCFD recommendations, which allowed the identification of transition risks for PMI business related to market changes, such as shifts in supply and demand for certain commodities, products and services. For PMI this includes risks of increasing costs of sourcing (including materials such as water and diesel) and increasing costs for suppliers, resulting in higher procurement costs. It also includes increasing competition for agricultural land, leading to less available or more expensive land for tobacco growing. Other market risks are related to PMI's investors and financial performance and include the inclusion of climate risk metrics by credit rating agencies, affecting PMI's score, and a general trend of investors moving away from carbon-intensive sectors. Finally, downstream market risks are associated with shifting consumer demands for lower-carbon products.</p> <p>Two concrete examples of how risks are assessed are described below:</p> <ol style="list-style-type: none"> 1. Diesel is widely used in many farming practices. PMI's agricultural supply chain and the related purchases of raw materials are influenced by the cost of production for farmers. Energy is a significant cost in farming practice in relation to the mechanical equipment used. If diesel prices increase, the overall cost of producing raw tobacco at directly contracted farms, as well as the cost of sourcing tobacco from third-party leaf suppliers, will increase as a result. This in turn would cause an associated indirect increase in procurement costs as the price of tobacco will respond to upward pressure on the cost of production. A key factor in diesel prices is global oil prices, which are expected to have different developments depending on the transition pathway taken at a global level. Under transition pathways aligned to 2 degrees scenario or below, the oil demand will be lower than under scenarios associate with greater temperature increases. As such the expected increase in oil prices and indirectly tobacco prices paid by PMI would be lower in a 2-degree scenario. 2. We track commodities (pulp, aluminum, glycerin, ethylene, mint crystals, guar seeds, coconut shell to name a few) through market indicator (RISI, ICIS, IHS or MCX) that provide price and supply chain scenario analysis of the commodities allowing PMI to track the source of its product and ensure the suppliers comply with relevant (industry, regional, international) regulation(s).
Reputation	Relevant, always included	<p>Stakeholder interest and expectations in climate change adaptation are increasing as the effects of climate change become more apparent, society is asking businesses to become part of the solution changing their practices. NGOs campaigns can impact companies' reputation and have business consequences on license to operate and bottom line. PMI is committed to combat climate change and set actions to act upon it. Those actions are conducive to substantiate PMI's leadership in</p>

		<p>sustainability as integral part of the success of its business transformation.</p> <p>Thus climate-related reputational risk is included into PMI's risk assessments considering the potential risk it could have on the long term success of the company.</p> <p>In 2019, the evaluation of climate change risks, aligned with TCFD recommendations, allowed for the identification of transition risks related to the reputation of PMI as a sustainability leader in the area of climate change; this evaluation included a survey of opinions of certain PMI stakeholders on how PMI contributed to or detracted from the transition to a lower-carbon economy.</p> <p>PMI identified that reputational risks can be driven by multiple factors including financial performance, investors' priorities, reporting requests, internal workforce concerns around sustainability, and challenges related to raising capital for the agriculture sector as a carbon intensive one.</p> <p>For example, PMI identified failure to address enhanced reporting requests as a potential reputational risk for the company. Increased reporting not only requires additional internal resources, but also exposes the company to a broader stakeholder community and sectoral benchmarking. PMI manages this risk by having an internal reporting team that coordinates reporting initiatives, as well as engagement with external consultants to ensure consistency through multiple reports, transparent communication, effective benchmarking against relevant sustainability ratings and the use of best practice methodologies and standards. We also conduct periodically a sustainability materiality assessment with a broad range of stakeholders. We strengthened our communication through our reporting. Our Integrated Report 2019, which covers our sustainability work, sought to align with the IIRC, GRI and SASB frameworks as well as with the recommendations of the TCFD and requirements of the CDP and other sustainability ratings; those documents and additional content can be consulted in our website.</p>
Acute physical	Relevant, always included	<p>Extreme weather events due to climate change have the potential to significantly impact our operations, buildings and suppliers, therefore having a substantive impact on our supply chain and on our business continuity plan. Flooding or typhoons can damage our buildings and goods, as well as the crops of our farmers and our logistics networks. In 2015, PMI performed a comprehensive Climate Change Risk Assessment (CCRA) for corporate and asset level physical risks and opportunities up to 2025-2030. This assessment was reviewed in 2019, to align with TCFD recommendations, and complemented with the water physical risks in 2019 and early 2020. The latter was conducted using the WRI Aqueduct to determine the global risk factors that affect the areas where we operate and source tobacco. The risk assessment</p>

		<p>process included key assets such as factories/warehouses, supplier's processing facilities/warehouses, as well as ports, and tobacco growing regions.</p> <p>Some of the risks identified in our own operations, and tobacco supply chain were those resulting from flooding and cyclones, e.g. in Brazil, Philippines, and Indonesia, which could lead to building and goods' damage, as well as crop losses to our farmers and disruptions to our logistics networks. In our manufacturing site in Indonesia, this could cause damage due to business interruption in the range of \$0.4 million to \$3.5 million, while in our tobacco growing areas in Brazil and Philippines could cause interruptions in our supply chain with a financial impact ranging from \$4 million to \$13.5 million</p> <p>This information is reviewed regularly with top management; it enables risk/opportunity identification and management at the company and asset level, and includes regulatory climate change aspects and geopolitical risk. Our substantial tobacco leaf inventories can help mitigate short to medium term impacts.</p>
Chronic physical	Relevant, always included	<p>Longer term weather shifts due to climate change have the potential to significantly impact our operations, assets and supply chain therefore having a substantive impact on our supply chain and on our business continuity plan. In 2015, PMI performed a comprehensive Climate Change Risk Assessment (CCRA) for corporate and asset level physical risks and opportunities up to 2025-2030. This assessment was reviewed in 2019, to align with TCFD recommendations, and complemented with the water physical risks in 2019 and early 2020. The latter was conducted using the WRI Aqueduct to determine the global risk factors that affect the areas where we operate and source tobacco. The risk assessment process included key assets such as factories/warehouses, supplier's processing facilities/warehouses, as well as ports, and tobacco growing regions.</p> <p>Results from the risk assessment process are reviewed regularly with senior management, enabling risk/opportunity identification and management at the company and asset level as well as in our logistic networks and supply chains.</p> <p>For instance, drought and water stress may impact our manufacturing operations, e.g. our facilities in Italy and Poland, due to the fact that water is essential for our production processes (products and for utilities), and therefore exposing our operations to requirements for increased capital expenditures to prevent business disruption due to water unavailability. The business interruption cost in our own operations are estimated in the range of \$2.2 million to \$17.8 million over the long term. The same risk in our tobacco supply chain in the growing regions of Indonesia, where we source tobacco and clove, could have adverse impacts both on quality and yield and result in potential financial impact of \$5 million to \$18 million over a long-term</p>

		<p>period. Similar issues would occur with accelerated land degradation in Africa due to droughts or accelerated desertification of areas where deforestation is taking place. This is one of the core problems that PMI is addressing through its Good Agricultural Practice program.</p>
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C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased direct costs

Company-specific description

Our operations throughout the globe are subject to various climate-related regulations. There is a clear international trend towards increasing and stricter climate-related regulations which could increase our operational costs. These include but are not limited to CO2 related trading schemes such as the EU Emission Trading Scheme (EU ETS). As of December 31st 2019 PMI owned and operated a total of 2 factories in the Netherlands and Italy covered by the EU ETS, with total verified emissions of over 40,000 metric tons of CO2e. PMI has other factories in the EU and EU accession countries which could also become subject to EU ETS. E.g.: in 2020 our factory in Romania will enter into EU ETS scheme due to the increased production capacity and related energy requirements. Although the cost of EU ETS carbon credits has been lower in the past several years due to a large surplus of allowances, the cost of allowances is expected to increase. According to the European Commission allocation to industrial installations received 80% of the free allowances in the 2013. This proportion has been decreasing gradually year-on-year, down to 30% in 2020.

The revision for phase 4 (2021-2030) of the revised EU ETS directive will enable tougher greenhouse gas emissions reduction target with a mix of interlinked measures, among which, an increase of the pace of emissions cuts at an annual rate of 2.2% from 2021.

This could lead to an increase in PMI's operating costs of purchasing allowances in the future, particularly in high emission locations in EU markets.

The potential identified risk is to see the production prices increase impacting operating costs.

We closely monitor if regulations on minimum threshold in these schemes are changing and signals of new emerging regulations and we consider those aspects in the strategic deployment of our manufacturing and supply chain networks including investments to increase efficiency.

If this impact reveals to be substantial, we would focus our efforts to increase energy efficiency in those factories.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

2,800,000

Potential financial impact figure – maximum (currency)

5,600,000

Explanation of financial impact figure

Although the cost of EU ETS carbon credits has been lower in the past several years due to a large surplus of allowances, the cost of allowances is expected to increase due to stricter regulations and more significant long-term reforms to reduce oversupply. According to the European Commission allocation to industrial installations received 80% of the free allowances in the 2013. This proportion has been decreasing gradually year-on-year, down to 30% in 2020, which could lead to an increase in our operating costs of purchasing allowances in the future. Over the last years, PMI has applied an internal carbon price of \$17 per ton of CO₂e in order to allocate capital for the best return in terms of carbon reduction and cost-effectiveness. As we are stepping up our ambition to reduce carbon emissions, we started an internal project to define a carbon price that will align with the 1.5-degree target and help to solidify the company's climate leadership. Based on a comprehensive review of policies and methodologies (price

corridor from ICPC), we recognize the importance of defining a carbon price that will remain consistent over time and ensures that climate transition risks are embedded in capital expenditure decisions.

Based on the above considerations and a worst case scenario approach of constant emissions as 2020 due to the growth of production capacity offsetting improvements in energy efficiency and other mitigation measures, we estimate the potential financial impact to be between \$2.8 million and \$5.6 million based on carbon footprint profiles of our operations in first half-year of 2020 (extrapolated to year end) of 2 factories in EU ETS scheme in 2019 and applied an annual cost of emissions allowances forecast to be between \$40 and \$80/tCO₂ in the medium term. Furthermore, for completeness purposes, we included in the calculation of the potential financial impact range the addition of a new site into EU ETS during 2020, Romania, due to the increased production capacity of this manufacturing site (i.e. increased combustion capacity exceeding thresholds).

I.e. (55,000 t/CO₂e for 2 sites in 2020 + 15,000 t/CO₂e Romania site emissions) * 40 =
2,800,000

and

(55,000 t/CO₂e for 2 sites in 2020 + 15,000 t/CO₂e Romania site emissions) * 80 =
5,600,000

Mitigation measures have been anticipated to ensure that carbon tax will be kept as minimal as possible.

Cost of response to risk

10,200,000

Description of response and explanation of cost calculation

Mitigation measures have been anticipated and the plants have undergone an energy efficiency program to ensure that despite being over the EU ETS threshold in energy consumption the carbon tax will be kept as minimal as possible, even aiming to go back to below threshold in the future and be exempted from the scheme.

We manage the risk through our Energy Management Program (EMP), which consists of energy consumption monitoring and investments in energy conservation and efficiency improvement projects. We have an energy monitoring and targeting system in place, with an annual cost of \$200k. Drivers like EU ETS and EU EED led us to consider process changes (e.g. replacement of outdated combustion equipment to more efficient equipment that can potentially reduce our energy load to below the 20MW regulatory threshold). From 2014-2018 we delisted certain sites from EU ETS as they fell below the total combustion capacity threshold.

Wider best practice sharing and energy/GHG reduction projects are part of EMP, and they involve specific investments for an annual set budget of around \$10M. Our EMP enables us to analyze consumptions and serve as basis for potential carbon tax exemptions and “cost to comply” reductions with the EU ETS.

Over the last years, PMI has applied an internal carbon price of \$17 per ton of CO₂e in order to allocate capital for the best return in terms of carbon reduction and cost-effectiveness. As we are stepping up our ambition to reduce carbon emissions, we

started a project to define a carbon price that will align with the 1.5-degree target and help to solidify the company's climate leadership and support an organic CO2 emissions contraction path. We select technologies based on clearly defined criteria: they must lead to an annual emissions reduction, have a payback period of no more than five years, and be among the more cost-effective projects in comparison to other carbon emissions reduction projects proposed within PMI. In Italy, we installed 6,660 square meters of photovoltaic panels in 2019, reaching the total of over 72,300 square meters globally.

In 2019, as a consequence of the energy saving projects implemented, our manufacturing site in Italy only used the free allowances and was able to comply to EU ETS without the purchase of additional credits.

Our annual cost of management is the sum of investments in energy conservation and efficiency initiatives (approx. \$10M) and the energy monitoring system operating costs (\$200k).

Comment

The EU ETS scheme has been an additional driver for the implementation of our energy efficiency program at global scale to anticipate the clear international trend towards increasing and stricter climate-related regulations which could increase our operational costs. Our activities in this area center on our Drive 4 Zero program, which aims to eliminate economic losses caused by inefficient energy use. Under the program, we look for industrial and manufacturing solutions such as heat recovery and manufacturing-process optimization. We also promote behavioral change through our Zero Loss Mindset program. Design standards include low GHG building practices, e.g. for materials and efficient lighting.

In our factory in Russia, for example, it was necessary to drain around one percent of the steam our boiler produced to maintain the desired water-quality parameters. This meant heat loss. We found a way to recover the wasted heat by installing a heat exchanger, which used the heat to generate steam. In that same factory, the water used for domestic purposes and radiators was heated by inefficient electric heaters, leading to avoidable losses. We installed a thermal pump that was five times more efficient, leading to a reduction of 210 tons of CO2e per year. Following our energy and CO2 reduction targets means that our Russia factory will already meet or exceed new state regulations such as the "energy conservation and improving energy efficiency in the period up to 2020" law.

Our Swiss affiliate emissions have been consistently below the allowances' threshold thanks to the implementation of energy saving program such as the implementation of a heat pump and more innovative technology such as pyrolysis. The latter is a "Drive For Zero" initiative to support the carbon neutrality target and respond to waste management, expected to cut GHG emissions of the site by 63%.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

In the short- to long-term most of PMIs sourcing regions face risks due to physical climate change events, such as cyclones, floods and others, potentially affecting our tobacco suppliers' capability to deliver on contracted volumes globally, e.g. in Brazil, which is among PMI's top 15 tobacco origins. Changes in precipitation patterns and extreme variability in weather patterns could affect the yield, quality and availability of the tobacco crops, triggering a substantive risk in case the potential financial impact is above our threshold (1000 metric tons of tobacco leaves), changing our sourcing plans and increasing operational costs, affecting PMI manufacturing operations and business directly. In 2019 tobacco volumes were significantly impacted by extreme weather events such as flood, hail, and extreme rainfall, causing relevant crop losses to contracted farmers, e.g. in Brazil, where over 1,000ha of production in Northeast and South regions were impacted in 2019 alone due to hail, drought and excess rain. Extreme rainfall in the fields may require pumping of excess water; while extreme droughts could require long-term irrigation, both of which would increase tobacco production costs above our substantive financial impact threshold. Changes in precipitation patterns could also affect local logistics, with extreme precipitation events potentially leading to inaccessibility of road networks, disrupting the delivery of tobacco.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,000,000

Potential financial impact figure – maximum (currency)

6,500,000

Explanation of financial impact figure

The potential financial impact range is based on a long-term assessment of costs from physical climate change risks related to extreme weather events in our tobacco origins in Brazil in a given year. Based on previous years' data on crop losses due to extreme weather events, which could lead to decrease of revenues for our farmers from reduced production capacity, combined with our comprehensive climate change risk assessment tool, the range of potential financial impact is derived. Setting the basis as PMI threshold for substantive financial impact (1,000 metric tons of tobacco leaves) for the specific case of Brazil, the lower range results in an estimate 3% (of the sourced volume or spend). The upper range reflects an estimation of 10% (of the sourced volume or spend) based on historical crop loss data (actual impacts reported) and our modeling projection. We estimated the relative magnitude in a range of around \$1-6.5M per year while we foresee this risk in the short to long-term (>6 years) for the Brazilian growers due to supply chain disruptions arising from extreme weather events such as excessive rain fall, hail and drought, and combining estimated costs due to disruption from crop losses, quality impacts and supply chain restrictions.

The costs' estimation takes into account the above factors, however, due to their inter-correlation, our modelling provides a bottom and top range.

Cost of response to risk

350,000

Description of response and explanation of cost calculation

The cost of response is based on the set yearly budget (i.e. we set a single investment amount into the program and it is not possible to provide a breakdown) allocated in 2019 to environmental projects (mainly related to climate change, water security and combat deforestation) under the Good Agricultural Practices program implementation in Brazil, accounting for approximately \$350 thousand in expenditures for initiatives within our tobacco supply chain. In 2019 projects were implemented in Brazil on water source protection and landscape conservation practices related to tobacco farming, contributing to improve the resilience of the local agricultural system, in response to increasing climate change effects. PMI's investment in these initiatives in Brazil are included in the cost of response and represented approx. 8% of the global 2019 expenditure in environmental projects.

An annual budget is allocated to initiatives to promote the adoption of improved and innovative practices by the farmers in our supply chain, similar yearly expenditure is expected over the next 10 years.

PMI continues investing in research and trial of flood tolerant seed varieties, while adjusting our procurement patterns, optimizing tobacco crop growing areas and our substantial tobacco leaf inventories, to further support mitigating short to medium term impacts.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Market

Increased cost of raw materials

Primary potential financial impact

Increased direct costs

Company-specific description

Increased production costs for farmers in the supply chain due to changing input prices, specifically diesel costs. For PMI this has an impact on procurement expenditure on tobacco from third-party leaf suppliers and directly contracted farmers.

Diesel is widely used in many farming practices, including transport and the operation of mechanical equipment. PMI's supply chain and its purchases of tobacco leaf are influenced by the cost of production for farmers, with mechanized activities at field level for approximately 80% of our purchased volume level (i.e. dependent on diesel). Energy is a significant cost in farming practice in relation to the mechanical equipment used. If diesel prices increase, the overall cost of producing raw tobacco at directly contracted farms, as well as the cost of sourcing tobacco from third-party leaf suppliers, will increase as a result. This in turn would cause an associated indirect increase in procurement costs as the price of tobacco would respond to upward pressure on the cost of production, based on surveyed data collected from farmers with diesel expenditure representing up to 10% of the overall cost of production. Specific markets may be more susceptible to fuel price fluctuations as they are characterized by farms more dependent on mechanized activities, for example in tobacco farming in Argentina where the adoption of mechanized activities is forecasted to increase considerably in the coming years. A key factor in diesel prices is global oil prices, which are expected to have different developments depending on the transition pathway taken at a global level. Under transition pathways aligned to 2 degrees scenario or below, the oil demand will be lower than under scenarios associated with greater temperature increases. As such the expected increase in oil prices and indirectly tobacco prices paid by PMI is lower in a 2-degree scenario.

The financial risk and impact is described in the "explanation of financial impact figure" section.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

110,000,000

Potential financial impact figure – maximum (currency)

225,000,000

Explanation of financial impact figure

Diesel price was modelled between 2017 and 2030 using the International Energy Agency (IEA) scenario data for projected oil price, and the assumption that the ratio between oil and diesel price will remain constant from current figures. The cost of diesel to farmers as a portion of total cost of production was estimated using a proxy based on the diesel and oil prices from public data sources on typical cost shares for similar agricultural products applied to the mechanization profile of PMI's farmer base (pro-rata based on volumes sourced yearly) according to an internal model.

This share was then applied to the current and future forecasted procurement spend on tobacco by PMI each year. It was then assumed that the PMI procurement expenditure on tobacco would remain constant in a business as usual scenario and increase by the same rate as diesel price under climate change scenarios. The result after the application of the aforementioned calculation methodology, and factoring farmers' uptake of new technologies, renewables and future forecasted tobacco requirements, was that the potential financial impact of the risk is estimated in a range of \$110 million to \$225 million per year if not mitigated, while we foresee this risk in the short to long-term (>6 years). PMI's response and mitigation strategy are described below.

Cost of response to risk

4,500,000

Description of response and explanation of cost calculation

Since 2002 we are implementing the Good Agricultural Practices (GAP) program. GAP is a program with mandatory requirements for our tobacco suppliers and their contracted farmers, which provides specific guidance on initiatives to mitigate tobacco growing risks and impacts related to climate change. Strategic initiatives include improving efficiency and switching to low-carbon energies, making tobacco suppliers, their farmers and PMI more resilient to price increments on diesel and diesel products.

The cost of response is based on the yearly budget allocated in 2019 to environmental projects (mainly related to climate change, water security and biodiversity) under the GAP program implementation across all regions, accounting for approx. \$4.5 million in expenditures for initiatives within our tobacco supply chain.

Specifically, agricultural best practices such as reduced tillage and no-tillage are fostered, which generate a wide range of benefits, among which the decrease in

intensity of mechanized activities at field stage and the improvement of tobacco curing barn efficiency lowering fuel consumption, thus reducing the dependency on fuel and its contribution to the overall cost of production.

In 2019, gradual switch to renewable sources and efficiency led to:

- 51% of flue-cured tobacco we purchased was cured using renewable and traceable fuels (mainly in Pakistan, the Philippines, Italy, Spain, Malawi, Mozambique, Mexico, Brazil and Argentina);
- 36% of the fuel was sustainably sourced firewood (and 15% other biomass);
- flue-curing GHG emissions intensity was 61% lower in 2019 (vs. 2010);
- reduction of 244,423 tons of CO₂e (vs. 2018);
- reduced indirect (scope 3) emissions through tobacco barns upgrades;
- increased collaboration with PMI Leaf suppliers strengthening working relationship and fostering additional collaboration on climate change related risks, and in other areas that may have a positive impact on our business and share value with society.

A set annual budget (i.e. we set a single investment amount into the program and it is not possible to provide a breakdown) is allocated to initiatives to promote the adoption of improved and innovative practices by the farmers in our supply chain. Similar yearly investment is expected over the next 10 years.

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Increased direct costs

Company-specific description

Based on GermanWatch's annual Climate Risk Index (2020), the Philippines is in the top 5 countries most affected by climate change impacts (including cyclones and flooding) resulting to an average loss of \$3.1billion in purchasing power parity to the country from 1999 - 2018. The supplies of tobacco leaf in Philippines (one of PMI's top 15 tobacco sourcing countries), coupled with negative impacts on tobacco crop quality, and supply chain manufacturing restrictions due to increased severity and frequency of extreme weather events could impact PMI's production and tobacco sourcing strategy, leading to increase in direct costs for PMI, suppliers and farmers. Tobacco leaf growing can be strongly affected by small changes in physical climate conditions such as

changes in temperature and precipitation. Furthermore, yield, quality and availability of the tobacco crop could be negatively impacted by changes in precipitation and periods of drought, which are increasing in frequency in recent years. This could affect our access to tobacco supplies, impacting our crop buying pattern and increasing operational cost, affecting PMI manufacturing operations and business directly.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

3,000,000

Potential financial impact figure – maximum (currency)

7,000,000

Explanation of financial impact figure

The potential financial impact range is based on a long-term assessment of costs from physical climate change risks related to drought, flooding and cyclones for the specific case of the Philippines. The lower range derives from our comprehensive climate change risk assessment tool (CCRA based on the IPCC and RCP8.5) combined with the threshold defined for the substantive financial impact, resulting in a 16% estimate (applied either to the sourced volume or spend). The upper range reflects an estimation of 32% based on our modeling projection of the expected change for this country with climate change (worst case scenario). We estimated the relative magnitude between \$3-7 million per year and we foresee this risk in the short to long-term (>6 years) for the Philippine growers due to supply chain disruptions arising from cyclones, drought and flood events during the growing season and combining estimated costs due to disruption from crop losses, quality impacts and supply chain restrictions.

Cost of response to risk

110,000

Description of response and explanation of cost calculation

As part of our procurement strategy, we require all tobacco suppliers to follow our Good Agricultural Practices, which provide measures to mitigate water related risks, through the adoption of climate smart agriculture practices. We implement globally our Local Risk Assessment (LRA) methodology utilizing granular local data to highlight water-

related risks and engaging local stakeholders including local Leaf suppliers. PMI utilizes the LRA results to implement initiatives with farmers to improve agricultural resiliency to flooding and drought such as the case in the Philippines where the results of the LRA performed in 2019 led to the planning and implementation of interventions. In order to ensure business continuity, PMI has substantial inventories of tobacco leaf which can help mitigate short to medium term impacts.

The cost of response is based on the set yearly budget (i.e. we set a single investment amount into the program and it is not possible to provide a breakdown) allocated to the Philippines in 2019 for environmental projects (mainly related to climate change, water security and biodiversity) under the Good Agricultural Practices program, accounting for approx. \$110 thousand in expenditures for initiatives within our tobacco supply chain.. The engagement with tobacco suppliers to drive improvements in crop management and environmental protection practices in the Philippines are included in the cost of response and represented approx. 2% of the global 2019 expenditure in environmental projects of the 2019 GAP budget. In 2019 projects were implemented in the Philippines on water source protection, water management practices and landscape conservation practices related to tobacco farming, contributing to increasing the resilience of the local agricultural system, in response to increased severity and frequency of extreme weather events such as cyclones and floods.

Comment

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Other, please specify

Increase water stress, droughts and riverine flood

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

In early 2020 we reviewed and assessed our water related physical risks, that are also integrated in our TCFD Climate Change Risks and Opportunities (CCRO) assessment. This water risk assessment was performed with the use of WRI Aqueduct.

The identified water risks related to climate change were physical (chronic & acute). Throughout the overall portfolio of the manufacturing sites, 4 strategically significant factories were identified at "high risk" or "extremely high risk" toward water stress, droughts and/or flood (by flood we mean riverine flood), as result to the shift on the precipitation patterns. At our manufacturing sites, high quality freshwater is used for

WASH (Water Access Sanitation and Hygiene) services, and for manufacturing processes including the preparation of flavors, liquid products, in several stages of the tobacco processing, among others. Good quality fresh water is also an ingredient in the manufacturing process of our RRP products which are expected to have an increased importance in PMI's strategy in the future. PMI expects its direct dependency on water to increase in the short to medium term (up to 5 years), as the company will transition to RRP which are more water-intensive in their manufacturing processes.

More specifically, our manufacturing facilities in:

- a) Italy, 2 sites, are directly exposed to potential disruptions in production capacity due to water stress and drought. One site was responsible for about half of PMI's total production of heated tobacco units (HTUs). Our second site is a HTUs manufacturing centre and is important in PMI operations, not for its manufacturing capacity, but for the capability to evaluate manufacturing optimization practices.
- b) Indonesia, one site responsible to produce around 9% PMI's total cigarettes production, is exposed to riverine flood.
- c) Poland, one site, responsible to produce around 10% of PMI's total cigarettes production, is exposed to drought.

Several water efficiencies, reuse, recycling and conservation projects have been implemented in order to increase resilience in drought and water stress and in Indonesia, our insurance and business continuity management plans are designed to mitigate the impacts from short and medium-term flooding events.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

2,600,000

Potential financial impact figure – maximum (currency)

21,300,000

Explanation of financial impact figure

We estimate the relative magnitude at the range of \$2.6 million to \$21.3 million in the medium to long term (4-6 years) for our operations based on potential disruptions in production capacity and current production data, as well as per our insurance's estimations (i.e.: in case of a minor event to all four sites, the sum of the cost of

disruption is about \$2.6M and in case of a major event to all four sites the sum of the cost of disruption is about \$21.3M; the financial impact was estimated based on the size each one of the four manufacturing sites and the respective business disruption period, in the case of minor and a major event; the impact in each site ranges from \$0.15M on minor event in the smaller site in Reno, Italy, up to \$11M for a major event in the biggest of these manufacturing sites, again in Italy in Samoggia river basin), not having experienced yet such an event. This impact is split 53% in our facilities in Italy, 16% in our facility in Indonesia and 31% in our facility in Poland.

PMI's range of potential financial impacts related to water impacts is developed by estimating potential losses related to minor and major business interruptions. This assessment is carried out on a per facility basis considering the total cost of business interruption per day based on production costs (excluding raw materials). These costs mainly represent labour costs from business disruption, as production would not be able to continue. PMI's estimated range of financial impacts can be broken down as in the formula below; the actual number of days of business interruption will depend on the site's ability to recover from an event:

Minimum financial impact = Number of interruption days in minor event * non avoidable operating cost per day

Maximum financial impact = Number of interruption days in major event * non avoidable operating cost per day

Cost of response to risk

4,500,000

Description of response and explanation of cost calculation

The cost response to the water risks, is calculated separately in each site and reported here as a sum of around \$4.5 million, allocated as 76% in Italy, 22% in Indonesia and 2% in the facility in Poland.

More specifically, in Italy, since 2018, several water efficiency, reuse, recycling, and conservation projects have been implemented in order to increase resilience in drought and water stress. These technologies have been tested and implemented and will continue to be implemented in the following years. The investment in these technologies amounted \$1.2 Million in 2018 and \$1.7 million in 2019. Specifically, in 2019, PMI implemented the purification of 128,000 cubic meters (equivalent to 50 Olympic-size swimming pools) of treated wastewater with reverse osmosis for reuse in cooling processes and steam production, a new technology for Cooling Tower Water Treatment (SR-CT), a pilot Cold Plasma System in tobacco processing to replace water scrubbers and a pilot project in Electrodialysis Reversal System (EDR) to treat recycled water. Furthermore, in the event of business interruption in the smaller manufacturing facility in Italy, we will follow our business continuity plan to temporary shift the small production volumes to our alternative approved facility (\$500 thousand) in Switzerland.

In 2019 the major factory in Italy decreased the water withdrawals by 21% vs. 2018 and increased the use of recycled water by 65%

In Indonesia, this estimated recurring cost of external providers used to assess flood and business continuity risk annually and related staff costs. Flood risk assessments are undertaken at the site level to understand how vulnerable sites are to cyclones/local

flooding events. Understanding the scale and nature of this risk and conducting a risk assessment, our insurance and business continuity management plans are designed to mitigate the impacts from short and medium-term (0-5 years) flooding events (\$1 million).

In Poland, since 2013, several water efficiency, reuse recycling and conservation projects have been implemented (\$68 thousand), including several modernization initiatives and the latest one, in 2019, was an improvement in the cleaning patterns of an equipment, expected to reduce water withdrawals by 3,600 m3 per year, an initiative that didn't require any investment.

Comment

Identifier

Risk 6

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Chronic physical

Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact

Increased direct costs

Company-specific description

Physical risks due to climate change could have adverse impacts both on quality and yield of the crops we use, such as tobacco leaf and cloves. Suppliers of tobacco leaf in Indonesia are exposed to physical climate change risks, with drought and flooding being most critical. Tobacco leaf growing is strongly influenced by physical climate change such as changes in temperature and precipitation. Specifically, in the markets where we source from located in the tropics and subtropics, and more vulnerable to climate change impacts, changes in precipitation patterns (too much or too little rain) could impact PMI's sourcing strategy due to crop losses, leaf quality degradation and supply chain disruptions. Clove is an essential raw material for PMI to use in our local kretek brands. Indonesia produces over 70% of the world's cloves. Clove production solely depends on rainfall for its water needs, making it highly reliant on well distributed rainfall during the growing season. Clove yields fluctuate, with harvests varying up to 60% over a 4-year cycle. Climate changes causing conditions such as prolonged dry season and extreme rain events, which could impact clove growing areas and be detrimental to plant productivity and cause yield volatility. Combined these factors could result in significant crop losses for our suppliers, decreasing farmers' revenue and reducing the supply of tobacco and clove, as it has been experienced in the past particularly during El Nino events. Reduced availability could drive price increase, impacting PMI's manufacturing

operations and business directly in relation to the fact that PMI is one of the biggest kretek cigarettes producer in Indonesia.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

5,000,000

Potential financial impact figure – maximum (currency)

18,000,000

Explanation of financial impact figure

The potential financial impact range is based on a long-term assessment of costs from physical climate change risks related to drought for the specific case of Indonesia. The lower range of financial impacts derives from our comprehensive climate change risk assessment tool combined with the threshold defined for the substantive financial impact, resulting in an estimated 8% increment in production costs (applied either to the sourced volume or spend). The upper range reflects an estimated 28% increment in production costs based on our modeling projection, based on our climate change risk assessment tool (CCRA based on the IPCC and RCP8.5), of the expected impact due to climate change (worst case scenario) for this country. We estimated the relative magnitude between \$5-18 million per year while we foresee this risk in the short to long-term (>6 years) for the Indonesian growers due to supply chain disruptions arising from drought and flood events during the growing season and combining estimated costs due to disruption from crop losses, quality impacts and supply chain restrictions.

Cost of response to risk

200,000

Description of response and explanation of cost calculation

As part of our tobacco procurement strategy, we require all tobacco suppliers to follow our Good Agricultural Practices, which provide measures to mitigate water related risks through the adoption of climate smart agriculture practices. We implement globally our Local Risk Assessment (LRA) methodology utilizing granular local data to highlight water-related risks and engaging local stakeholders including tobacco suppliers. PMI utilizes the LRA results to implement initiatives with farmers to improve agricultural

resiliency to flooding and drought such as the case in Indonesia where the results of the 2018 LRA led to the planning and implementation of interventions in 2019. Focus trial projects to mitigate the effects of drought impacts on cultivated crops were deployed in clove and tobacco growing areas. In particular, drip irrigation systems have been tested with farmers in clove production to increase resiliency, reduce dependency on rainfall and avoid productivity losses. Another example is the improved water access through the installation of deep wells in a tobacco growing area to ensure the continuous availability of water for crop irrigation and human consumption, in collaboration with our local supplier, to avoid potentially negative impacts to the crop due to changing weather patterns, supported by a thorough investigation of the deep well's impact on the groundwater level.

In order to ensure business continuity, PMI has substantial inventories of tobacco leaf which can help mitigate short to medium term impacts (up to 5 years).

The cost of response is based on the set yearly budget \$0.2M (i.e. we set a single amount and it is not possible to provide a breakdown) allocated in 2019 to environmental projects (mainly related to climate change, water security and biodiversity) under the Good Agricultural Practices program implementation in Indonesia. The engagement with tobacco and clove suppliers to trial improvements in crop management practices in Indonesia it is included in the cost of response. The expenditures represent approx. 4% of the 2019 global GAP budget. We have engaged with our tobacco suppliers to improve crop management practices and are strengthening our supply chain for tobacco at an overall cost of several tens of millions of US\$ (represented by the entire GAP budget). Similar yearly investment is expected over the next 10 years considering projected climate change related impacts and the potential scale-up of current projects.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resilience

Primary climate-related opportunity driver

Participation in renewable energy programs and adoption of energy-efficiency measures

Primary potential financial impact

Reduced direct costs

Company-specific description

Mapping energy consumption profiles of our manufacturing sites worldwide and available technologies, PMI has identified through its manufacturing engineering team, the opportunity to switch to renewables and leverage on nationally offered subsidies to implement renewable energy self-generation.

From the mega trends, electrification and through the various stimuli to accelerate the transition to a low carbon economy it is anticipated that policy levers to reduce cost barriers for deployment of renewable technologies will be required. This is likely to include the introduction of subsidies for energy generation which have already been a feature in many markets and used successfully to support the commercialization of renewable technologies making them cost competitive with conventional alternatives. The scale of these subsidies and corresponding total cost of energy for renewables is expected to be higher under a 2-degree scenario (2DS). Subsidies for renewable energy self-generation in different countries are factored into our cost-benefit analyses for pertinent projects so that improved return on investment can potentially be delivered. Cost-Benefit analysis and renewable energy assessments have been performed in our facilities located in Italy, Turkey, Lithuania, Ukraine, Serbia, Greece, Indonesia and Mexico. These analyses proved that not only PMI was able to decarbonize its energy needs by self-generating its own energy, such as through photovoltaic technology and biomass, but equally important to drive variability of energy costs and dependency down, and ultimately supporting our transition toward a low-carbon business model. PMI could access subsidies for renewable energy generation in its operations in different countries, for example in Italy and the Philippines, and any unused energy could be sold back to the grid, creating a new source of revenue for PMI as well as significant savings on energy costs.

This is embedded into our environmental strategy, annual and long range plans to increase the use of renewable energy in our manufacturing sites, increasing either self-generation and/or purchases. In 2019, the self-generation of electricity increased to 2% on the overall PMI consumption.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

98,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The levelized cost of energy (LCOE) for renewable and non-renewable sources was modelled between 2017-2020, drawing from scenario data under 2-degree scenario. This LCOE metric is a useful summary of the lifetime cost of energy incorporating a range of factors associated with the type of generating asset including subsidies. The LCOE has been used to compare the benefit of moving to renewables for energy generation, such as photovoltaic and biomass, with the current operational expenditure on energy at PMI sites assumed to remain constant in business as usual (BAU) scenario. This LCOE is applied to the current PMI operational energy spend to compare the cost of energy of the BAU scenario with a fully renewable uptake over the time horizon considered. The approximate financial impact of this analysis is based on PMI's global operations study results and estimations (carried by the Carbon Trust) where, in a 2DS, PMI would have a saving up to \$97 million.

We also estimate the overall impact of subsidies for renewable energy generation to our various locations throughout the globe to be over \$1 million based on the incentives considered in the renewable projects planned.

Cost to realize opportunity

90,000,000

Strategy to realize opportunity and explanation of cost calculation

Self-generation of renewable energy is part of our PMI's "carbon neutrality in manufacturing" strategy, which includes:

- elimination of losses and improvement of operational efficiency
- increase in the use of renewable energy
- increase in self-generation through investment in renewable energy

Options to self-generate and/or purchase renewable energy are evaluated based on analysis of local facilities data, our Energy Management Program and regulatory radar screen. Decisions to mitigate climate-related transition risk due to increased cost to source energy for our operations is taken with the support of a Marginal Abatement Cost Curve (MACC) and an internal carbon price (\$17 per ton CO₂e) which help to prioritize renewable energy generation projects based on GHG reduction potential. As we are stepping up our ambition to reduce GHG emissions, we started a project to define a shadow carbon price that will align with the 1.5-degree target and drive our

decarbonization path.

As an example of carbon price application, in 2019 our factory in Brazil invested in a \$2.7M biomass boiler with 8 tons/h steam capacity (investment included transport, feeding and storage systems) using as feedstock biomass waste (tobacco dust) and wood chips to replace a fuel oil boiler, reducing 5,000 tCO₂e per year or 45% of the total manufacturing site emissions. The differential fuel cost is substantial, \$694/ton compared with wood chip \$37/ton. This installation is one of the largest of its kind in PMI and follows in the footsteps of PMI affiliates in Mexico (investment \$1.7M CAPEX). Regarding self-generated electricity, we invested \$1.1M in a 6MW photovoltaic panel system in our manufacturing site in Italy. This will contribute to achieve one of our targets which is, for example, to have 100% of our affiliates switched to green electricity by 2025. We are well on target as we have already reached 72% in 2019. Through these projects PMI was able to increase the share of energy self-generated, decarbonize its energy needs, via photovoltaic technology and biomass, and to drive variability of energy costs and dependency down.

We estimate a cost of management of \$90M (a set annual budget for capital expenditures in a range of \$7-9 M over a 10-12 years' timeframe), based on previous investments and number of facilities to switch to renewables. The cost to realize the opportunity is a range \$90M +/- \$20M: cost is the average between \$70M (\$7M*10 years) and \$108M (\$9M*12years).

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Resilience

Primary climate-related opportunity driver

Participation in renewable energy programs and adoption of energy-efficiency measures

Primary potential financial impact

Other, please specify

Reduced dependency from fossil fuel and favorably impact farmers profitability and increased their resiliency

Company-specific description

As cost competitive alternatives to fossil fuels become more readily available, it becomes attractive for tobacco farmers to switch to low carbon energy sources. Farms may become more efficient thanks to new technologies; if PMI continues to invest in programs to improve agricultural practices and encourage the uptake of low carbon

equipment, farmers' expenditure on fuel and energy inputs will fall. The speed of fall in costs will depend on global trends in fossil fuel prices due to oil markets and implementation of carbon pricing mechanisms. A fall in costs of production should reflect increased revenues for the farmers. The reduced dependency of our tobacco supply chain on fossil fuels is an opportunity in the short term for tobacco farmers and supports PMI's GHG emissions reduction targets in the medium to long term.

For PMI's the opportunity lies in intangible benefits such as enhancing its corporate reputation by minimizing its supply chain environmental impact.

A good example is the implementation of PMI's Renewable Curing Fuel Program, which defines a best-practice approach to be implemented in all flue-cured markets, with a focus on the transition from fossil fuels to low carbon fuels and the implementation of barn improvement initiatives. The program results are globally monitored annually by a third-party, focusing on the compliance with our internal standard and fostering continuous improvements. Where the fuel transition results in a switch towards woody biomass, our standard prescribes the fuel sustainability and traceability (i.e. from a sustainably managed forest). With the progressive implementation of our program suppliers in many countries effectively transition to low carbon fuels for curing. Focus remains in countries where curing practices are still heavily dependent on fossil fuels, e.g. coal in China. Through a multi-stakeholder engagement, a pilot project was implemented in the provinces Guangzhou and Yunnan to progressively convert curing barns from coal to woody biomass, generating less dependency from fossil fuels but also contributing to significantly curb GHG emissions. The focus of incentivizing best practice in PMI's supply chain responds to increasing interest for environmental issues from our stakeholders and could enhance PMI's reputation and create corporate value. Through investment in programs to improve agricultural practices, PMI is expecting to ameliorate farmers' conditions and resilience to climate change risks.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

110,000,000

Potential financial impact figure – maximum (currency)

225,000,000

Explanation of financial impact figure

The potential financial impact range represents an opportunity for suppliers and farmers in our tobacco supply chain due to decrease in farmers' costs of production and reflects the estimates of their potential increased revenues.

The benefit sought by PMI is not financial, but rather to build stronger resilience within our supply chain by supporting farmers to switch from fossil to low-emission fuels and it is designed to remain with the farmers as part of the Good Agricultural Practice program.

Through investment in programs to improve agricultural practices, PMI is expecting to ameliorate farmers' conditions and resilience to climate change risks, strengthening our engagement and collaboration with them.

The reduced dependency of our tobacco supply chain on fossil fuels is an opportunity in the short term for tobacco farmers and supports PMI's GHG emissions reduction targets in the medium to long term.

The range for the potential financial impact figures has been estimated as follows. Diesel price was modelled between 2017 and 2030 using the International Energy Agency (IEA) scenario data for projected oil price, and the assumption that the ratio between oil and diesel price will remain constant from current figures. The cost of diesel to farmers as a portion of total cost of production was estimated using a proxy based on the diesel and oil prices from public data sources on typical cost shares for similar agricultural products applied to the mechanization profile of PMI's farmer base (pro-rata based on volumes sourced yearly) according to an internal model.

This share was then applied to the current and future forecasted cost of production of tobacco farmers based on PMI purchased volumes each year. It was then assumed that tobacco farmers' cost of production would remain constant in a business as usual scenario and increase by the same rate as diesel price under climate change scenarios. The result after the application of the aforementioned calculation methodology, and factoring farmers' uptake of new technologies, renewables and future forecasted tobacco requirements, was that the potential financial impact of the opportunity for our tobacco suppliers and farmers globally could be in a range of \$110 to \$225 million per year.

Taking in account our ambition to a carbon-neutral value chain by 2050, all emissions reduction within our scope 3 may have a potential financial impact in time. It has not been estimated due to the timeframe of the objective.

Cost to realize opportunity

4,500,000

Strategy to realize opportunity and explanation of cost calculation

Since 2002 PMI implements its Good Agricultural Practices (GAP), a program with mandatory requirements for our tobacco suppliers and their farmers, which provides specific guidance on initiatives to mitigate tobacco growing risks and impacts related to climate change.

Strategic initiatives include the Renewable Curing Fuel Program with a focus on curing efficiency and switching to low carbon curing fuels, making tobacco suppliers and their farmers more resilient to price increments on fossil fuels. The reduced dependency on fossil fuels is an opportunity in the short term for tobacco farmers and supports PMI's GHG emissions reduction targets in the medium to long term. The cost of response is

based on the set yearly budget allocated in 2019 to environmental projects (mainly related to climate change, water security and combat deforestation) under the GAP program implementation across all regions, accounting for approx. \$4.5 million in expenditures. In 2019, gradual switch to renewable sources and efficiency led to:

- 51% of flue-cured tobacco we purchased was cured using renewable and traceable fuels (mainly in Pakistan, the Philippines, Italy, Spain, Malawi, Mozambique, Mexico, Brazil and Argentina)
- 36% of the fuel was sustainably sourced firewood (15% other biomass)
- flue-curing GHG emissions intensity was 61% lower in 2019 (vs. 2010)
- reduction of 244,423 tons of CO₂e (vs. 2018)
- reduced indirect (scope 3) emissions through tobacco barns upgrades and improved efficiency
- increased collaboration with PMI Leaf suppliers strengthening working relationship and fostering additional collaboration on climate change related risks, and in other areas that may have a positive impact on our business and share value with society.

A set annual budget (i.e. we set a single investment amount into the program and it is not possible to provide a breakdown) allocated to initiatives to promote the adoption of improved and innovative practices by the farmers in our supply chain. Similar yearly investment is expected over the next 10 years.

The focus of incentivizing best practice in PMI's supply chain responds to increasing interest for environmental issues from our stakeholders and could enhance PMI's reputation and create corporate value. Moreover, through investment in programs to improve agricultural practices, PMI is expecting to ameliorate farmers' conditions and resilience to climate change risks, strengthening our engagement and collaboration with them.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Resilience

Primary climate-related opportunity driver

Other, please specify

Insetting represents the actions taken by an organization to fight climate change within its own value chain in a manner which generates multiple positive sustainable impacts.

Primary potential financial impact

Other, please specify

Benefit to operating cost and supply chain value creation.

Company-specific description

In 2019, PMI established a new and more ambitious goal: to be carbon neutral by 2030 for Scope 1 and 2. PMI is in the process of implementing a carbon levy to support its 2030 goal through compensation of residual Scope 1 and 2 emissions, supported by Science Based Targets as guiding principles. PMI will use the carbon levy to charge selected business units for their respective GHG emissions and establish an internal climate fund to finance high quality GHG emission reduction projects within PMI's supply chain (insetting projects). PMI will prioritize the development of insetting projects that are aligned with its Good Agricultural Practices (GAP) program and that promote sustainable development in line with the company's priorities in the fields of climate, forest conservation and/or reforestation, water, low carbon agriculture, household projects or others. An example of an existing project concept is PMI's work in Mozambique, where farmers and their communities traditionally rely on the use of firewood to sanitize fetched water to drinking water, resulting in GHG emissions. PMI is contributing to the provision of access to safe and clean water by establishing and rehabilitating boreholes with solar pump technology in its farmers' communities, which besides contribute to GHG emissions abatement.

The carbon credits generated through insetting projects will be primarily used by PMI to compensate those unavoidable Scope 1&2 emissions (e.g. which are not currently possible to reduce due to technical or financial viability).

In the absence of insetting projects, PMI would need to acquire carbon offsets in the international market, being exposed to market volatility, particularly in the context of the upcoming implementation of CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation) and the related expected impact in terms of carbon credit demand. The insetting projects represent an opportunity for PMI to be more resilient to market volatility, potentially harvesting benefit in terms of operating cost, as well as to generate co-benefits in the supply chain.

PMI is planning to start implementing insetting projects in 2020, prioritizing farmers with the highest needs of water, GHG emission reduction and co-benefit potential.

PMI expects its insetting projects to contribute to a range of sustainable development goals such as:

- No poverty (SDG 1)
- Good health and well-being (SDG 3)
- Clean water and sanitation (SDG 6)
- Climate action (SDG13)

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,000,000

Potential financial impact figure – maximum (currency)

10,000,000

Explanation of financial impact figure

While we aim to reduce our absolute GHG emissions through efficiency improvements and investing in renewable energy sources, unavoidable emissions remain, leading to compensation measures as a last resort.

Based on our estimation, for PMI to become carbon neutral for scope 1 and 2 by 2030, a large amount of credits for an unlimited period will be necessary.

As a first step, aligned with our carbon neutrality objective for scope 1 and 2 emissions by 2030, a sustainable business strategy was defined in 2019 leveraging on the implementation of insetting projects.

PMI's 2019 direct emissions accounted for 555,882 tCO₂e. Based on our emissions reduction strategy scenarios and simulations, we based our potential financial impact on 200,000 tCO₂e by 2030. Large scale renewable projects generating millions of credits (e.g. hydro in India, China or Brazil) are virtually certain to not be available by then, leaving the field to Voluntary Emission Reduction scheme to fill the gap, with credit prices ranging between \$5 and \$50 in some cases (such as mangroves projects for example).

To fulfil our carbon neutrality commitment in 2030, we would need to invest between \$1 million (200k * \$5) and \$10 million (200k * \$50), taking into account the likelihood of price inflation and considering future volatility of the market with the upcoming implementation of CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation).

By investing in a portfolio of insetting projects, PMI aims to generate the credits required at a fixed price through the development of the project. Considering the strategy was still under development in 2019 further details will be reported in 2020 CDP disclosure.

It is important to note that the financial impact mentioned here doesn't take into account all the co-benefits related to reputation, compliance, supply chain resilience to name a few of them.

Cost to realize opportunity

5,000,000

Strategy to realize opportunity and explanation of cost calculation

To realize this opportunity, in 2019 we evaluated the feasibility of an insetting project that would provide access to clean and safe drinking water to rural communities within the tobacco growing areas of Mozambique, where tobacco farmers part of PMI supply chain are located. The project is in line with our water, access, sanitation, and hygiene (WASH) program, and will also benefiting the schools we support through school

feeding initiatives. We determined that the best approach would be to pilot 10 water access sites, building or rehabilitating boreholes with solar pump technology, to determine how well the selected technology works within the local context and its potential to scale up. Ideally, the project will qualify for certification by the Gold Standard Foundation, thereby generating internationally recognized verified emission reductions, which over time will compensate our residual direct emissions and contributing to achieve PMI's carbon-neutrality target for Scope 1 and 2 by 2030. According to our feasibility assessment, the installation of 10 boreholes could benefit around 35,000 beneficiaries and avoid 865,000 tons of CO2 emissions over 10 years, providing approximately 245 cubic meters of safe drinking water per day.

We are defining our approach and we will start the project implementation in 2020, reporting on its progress next year.

The co-benefits of such project(s) are:

- to strengthen our supply-chain not only by providing co-benefits to the beneficiaries but by being more resilient toward water related issues;
- to align our strategy with international expectation such as the Paris Agreement, by taking ownership of our carbon neutrality ambitions, by being self-sufficient in carbon credit generated and cost-efficient;
- to demonstrate leadership by internalizing the cost of externality due to climate change.

The cost provided is an estimation for a set budget (i.e. we set a single investment amount into the program and it is not possible to provide a breakdown) to be allocated to the initiative, as the project is still under development and not finalized yet. We estimate the range to be between \$4 - \$6 million and to include the cost of building the boreholes, the solar pump technology, the management, monitoring and certification fees.

Comment

In our strategic approach, we are also monitoring closely Nature-Based Solutions to support carbon removals that will further contribute towards our journey to achieve our long-term target of our whole value chain to be carbon neutral (GHG Scope 1, 2 and 3) by 2050.

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Reduced direct costs

Company-specific description

PMI has a history of successful packaging innovation, and packaging is an important aspect of sustainable design (i.e.: eco-design). With respect to our smoke-free products, our 2025 eco-design and circularity ambitions related to packaging, aim reducing the carbon footprint of smoke-free products to below that of combustible cigarettes per user. In packaging, more than 90% of our materials were paper and cardboard in 2019. The primary function of packaging is to contain and protect products from the point of manufacture to the retail store or end user, as well as to provide product information. We are addressing our packaging strategy with a multipronged approach, including awareness-raising training for our Pack developers, ongoing research into alternatives to plastic based packaging, and improved design of packaging.

Governance of eco-design and circularity is guided by our design and development teams and is fully embedded within our innovation process, including regular checkpoints with senior management. We are committed to evaluating sustainability characteristics and making design choices that will continually enhance the performance of all our products and packaging. Life cycle analysis (LCA) and/or other relevant environmental assessments are performed prior to launch of any new product and results presented in internal decision-making forums, in accordance with our sustainable design governance programs.

Research are constantly performed on packaging design to identify new technologies and materials that could enhance the overall sustainability of our smoke-free product portfolio as well as conventional portfolio. Internal cross-functional teams are already hard at work establishing these innovation pipelines.

As an example, we are actively working in developing an innovative packaging design solution for our smoke free products addressing material consumption by lowering the weight and the number of secondary packaging components in use, through packaging material substitution. This initiative estimates a potential magnitude of packaging components reduction of 16% of complete bundle, including packs and outer, as well as 67% of pulp-based material weight consumption, and 57%% of plastic packaging weight consumption. As a return, by lowering the total consumption of secondary packaging requirements through complete redesign, we shall optimize the CO2 footprint of our smoke free products by approx. 1500 tons of CO2e.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

8,900,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

As we are reducing the total amount of packaging requirements to produce the same amount of smoke free products, we are generating financial savings. The yearly potential financial impact of the opportunity relies on the SVC (Standard Variable Cost in \$ per thousand of smoke-free product units) variation between current solution and innovation applied to the market contemplated number of smoke free product units. Based on volumetric price of materials involved in both new and current solutions factored by the yearly consumption of smoke-free products Stock Keeping Unit (SKU) selected, we modelled expected savings resulting in a magnitude of \$8.9 million. [(current material price per Kg * current material quantity per SKU – new material price per Kg * new material quantity per SKU) * SKU volume = savings i.e.: \$8.9 million. Formula example with generic numbers: [(\$10/Kg*100Kg) – (\$9/Kg*80Kg) * 100 000 SKU = \$28,000,000]

Cost to realize opportunity

5,800,000

Strategy to realize opportunity and explanation of cost calculation

Following Management validation of the proposed innovation solution and associated business case, our engineering, procurement and manufacturing solutions teams, as well as our suppliers of direct material and packing machinery, will collaborate to realize this project following our standard stage gate process. PMI will implement the standard Industrialization Stage Gate process which includes: detailed specifications creation, involvement of supply chain partners, Capex activation and machine park upgrade, manufacturing and quality deployment process through quality and machinability tests and last but not least validation protocols.

When it comes to Capex, investigations were conducted by our Engineering and Manufacturing Solutions teams in collaboration with OEMs [Original Equipment Manufacturers] which packing machines are used for the production of our smoke-free products to identify the magnitude of machine modification required to implement this packaging change ensuring the highest level of quality, runability and machine efficiency.

The results of these costs investigations at machine level in the ideation stage is estimated at an average of \$96.7 thousand per machine and is then multiplied by the number of respective machines in use [60] in our affiliates for the packing process of our smoke-free products which would be part of the project (i.e.: at the moment estimated 60 machines * \$96.7 thousand in average per machine resulting in about \$5.8 million).

Through all these preparation and machinery upgrade actions, we shall then be in the position to deploy the new innovative secondary packaging solution, bringing consumption reduction of 67% of pulp-based material weight, 57% of plastic packaging weight, cost optimization of \$8.9 million, and CO2 emissions reduction by approx. 1,500 tons of CO2e.

Comment

Identifier

Opp5

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced direct costs

Company-specific description

Driving energy efficiency is core to our strategy. Transition toward a low-carbon business model is a priority within PMI strategy to achieve our carbon neutrality objective and deliver financial productivities.

Our activities in this area center on our Drive for Zero (D4Ø) global program, which aims to eliminate economic losses caused by inefficient energy use. Under the program, we look for industrial and manufacturing solutions such as heat recovery and manufacturing-process optimization. We also promote behavioral change through our Zero Loss Mindset program.

To support our D4Ø program, an Energy Saving Initiatives (ESIs) program has been started in 2019, triggering more than 500 projects worldwide including among many others LED lighting, HVAC upgrade, chilled water optimization and heat recovery projects.

In line with the implementation of our internal carbon pricing approach, the application of an internal shadow carbon price improves the ROI of the project facilitating the approval when presented to senior management.

The opportunity of embracing new technologies and discontinuing with obsolete ones present several benefits among which but not limited to:

- improved financial productivity in the medium-long term, even more considering the

increasing energy requirements due to the ramp up of production of our smoke-free products which are more energy voracious than conventional products;
- enhanced opportunity in trading schemes (see opportunity 1 for more details).

New technologies are fast evolving and requires thorough and continuous monitoring to seize opportunities.

We recognize that more energy is required to produce IQOS heated tobacco units compared with cigarettes, with a consequent increase in greenhouse gas emissions. We are seeking to reduce this impact through these appropriate investments.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

130,000,000

Potential financial impact figure – maximum (currency)

165,000,000

Explanation of financial impact figure

The financial impact of such opportunity, considers:

- the financial savings of the projects' implementation calculated in the PMI's energy dashboard tool, which has been estimated between \$30 million and \$40 million;
- the enhanced productivity in our manufacturing sites taking into account energy and water annual consumption costs, which has been estimated in the range between \$100 million to \$125 million, based on our energy expenditure;
- the potential of trading surplus of carbon credits allocated to PMI in Cap & Trade schemes (such as EU ETS for example) which has not been quantified due to the upcoming of the changes with phase IV of the EU-ETS and has not been accounted for in that case.

The financial impact range is provided by the sum of the lower brackets (\$30M+\$100M) and the higher ones (\$40M+\$125M).

Cost to realize opportunity

60,000,000

Strategy to realize opportunity and explanation of cost calculation

Driving energy efficiency is core to our carbon neutrality strategy in manufacturing and to deliver a step-change in financial performance to PMI.

Under D4Ø program, and the Energy Saving Initiatives (ESIs) program, each PMI factory have been reviewed and prioritized.

The ESIs program started in 2019 and includes 3 waves:

- Wave 1 focuses on the top 15 factories with the highest energy footprint and ESIs with return on investments (ROI) below 3 years to leverage on quick win projects.
- Wave 2 covers all factories and ESIs with ROI below 4 years and include every projects subject to save energy within our manufacturing sites portfolio.
- Wave 3 looks at energy savings and energy efficiency technologies with a longer ROI (generally between 3 and 5 years) and disruptive technology which will further drive our factory toward carbon neutrality. Wave 3 applies to less mature technologies such as pyrolysis, fuel cells, process heat recovery which requires heavier initial investments. Some projects with higher ROI were prioritized, for example a pyrolysis project was approved in 2019 and being implemented in our Swiss factory.

The ESIs program includes more than 500 projects globally, e.g. LED lighting, HVAC upgrade, chilled water optimization and heat recovery. The cost to realize this opportunity is based on the deployment forecast of the 3 waves for the next 3 to 4 years with an objective to have them all implemented by end of 2024 and contribute to deliver substantial energy saving equivalent to more than 56,000 t/CO₂e reduction. The \$60 million cost to realize the opportunity covers the full ESIs program for all the PMI's manufacturing sites globally and it is based on project that have a 4 years ROI, or less. The cost is a set budget for the sum of all projects and it is not possible to provide a breakdown by initiative

It is important to mention that this cost is being revised periodically due to several parameters such as specification changes, prioritization, re-estimation based on technology evolution and fuel prices.

A shadow carbon price mechanism has been developed to assess and prioritize the initiatives with the aim to drive the implementation of technologies with the higher impact in CO₂ emissions reduction.

We recognize that more energy is required to produce IQOS heated tobacco units compared with cigarettes, with a consequent increase in greenhouse gas emissions. We are seeking to reduce this impact through these appropriate investments.

Comment

Our initiatives don't apply solely to our manufacturing sites, in our tobacco supply chain we focus on three areas: reducing fuel consumption by improving curing-barn efficiency, promoting the switch from fossil fuels to biomass fuels, and ensuring sustainable and traceable firewood (leading to an absolute reduction in 2019 of 244,423 tons of CO₂e versus 2018); in this opportunity here we only accounted the impact in our direct operations.

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.1b

(C3.1b) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
RCP 8.5	<p>For PMI it is important to assess and address climate change related risks and their potential impacts across the business and its performance. We integrated the 2015 climate change risk assessment with TCFD recommendations to provide transparency on the financial impacts of the evaluated scenarios following a consistent process to assess the importance of climate change risks and opportunities (CCRO) to PMI business. This information was reviewed by top management enabling risk/opportunity identification and management at the company and asset level; it includes regulatory climate change aspects and geopolitical risk.</p> <p>Scenarios were built using a 3-step approach as follows:</p> <ul style="list-style-type: none"> - Climate change projections determine the change from baseline in the future with a focus on enhanced robustness of the assessments of future climate change and its impact to a list of 85 key assets such as factories/warehouses, supplier’s facilities, ports and tobacco growing regions in order to reflect the current make-up of the company. - The exercise was sourced from the Coupled Model Inter-Comparison Project - Phase 5 (CMIP5), a set of 35 climate model, which fed into the IPCC 5th Assessment Report. - Projections for the 2030 timeframe (averaged over 2025 -2035) under the worst case ‘high emissions’ scenario RCP8.5 were taken in consideration in order to prepare PMI for medium-long term major physical climate change risks and also assess opportunities for new tobacco growing areas. <p>The 2DS scenario informed PMI’s business strategy by serving as a benchmark to set up our Science Based Target in 2017.</p>

	<p>This assessment involved a range of stakeholders in various PMI's functions, beyond sustainability and environmental focused teams, such as Risk & Insured losses, External Affairs, and Science & Innovation.</p> <p>The assessment conducted in 2018/1919 identified CCRO and included physical risk categorizations. Throughout this process, we mapped 149 CCROs across materiality and certainty and then divided them according to PMI's risk/opportunities categories: proactive, reactive, nonmaterial, watch, and potential quick wins, so we could better integrate them into the business. After further analysis, it was decided to prioritize the proactive CCROs, as they have the highest certainty and materiality levels. We conducted an analysis, for each of the 18 prioritized CCROs, of the estimated financial value-at-stake under two climate scenarios – alignment to the Paris Agreement goal of keeping temperatures increases below 2°C and a reference policy scenario based on current levels of ambition. We incorporated the outcome into PMI climate related strategy.</p> <p>Some potential risks in the long term were highlighted, e.g. increased in drought in Argentina, Brazil, Indonesia and Philippines tobacco growing areas, which could potentially reduce farmer's ability to grow tobacco; or increased risk of droughts and water stress in some EU factories with consequences on business continuity.</p> <p>Following the results of the analysis we decided to, e.g.:</p> <ul style="list-style-type: none"> - develop a local water risk assessment tool for our tobacco growing areas to better understand local risks and drive mitigation actions as part of our Good Agricultural Practice program; -implement Alliance for Water Stewardship (AWS) standard in our factories with the objective to certify all of them by 2025, aiming to further assess and mitigate these risks and enhance engagement with stakeholders in the catchment area. By the end of 2019 6 sites were already certified based on AWS Standard. <p>To meet our business objectives, the implementation of above processes and findings enabled our strategies to focus and prioritize the following:- initiatives in collaboration with our tobacco suppliers, e.g. practices to reduce water consumption at farm level e.g. in ID and PH, and towards more efficient water management practices e.g. in BR and AR;</p> <ul style="list-style-type: none"> - investments in factories where local risks have been identified.
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C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence

<p>Products and services</p>	<p>Yes</p>	<p>For PMI, sustainability means creating long term value while minimizing the negative externalities associated with our products, e.g. through Lifecycle Assessments (LCAs), new products' design, packaging and components. Following a more in-depth CCRO assessment aligned with the TCFD recommendations, we evaluated climate related risks and opportunities in relation to our Products & Services, such as shifts in supply & demand and downstream market risks associated with shifting consumer demands for lower-carbon products.</p> <p>In 2019 we conducted market-research studies with our RRP consumers and legal age smokers (LAS) in order to quantify their HEETS disposal behavior and impact on purchasing decisions linked to perceived environmental issues, including climate change.</p> <p>The results indicated that environmentally friendly products and services represent an opportunity for us to accelerate our transformation into a smoke-free future.</p> <p>Additionally, results from these studies allowed PMI to carry out a cost/benefit analysis of developing and commercializing more sustainable products and services, and will be used to build a roadmap for our RRP products and prioritize our initiatives, influencing PMI's strategy at the long term.</p> <p>Another example of how climate-change has influenced our products and services at the short and medium term is the establishment of sustainability targets. To control environmental and social impacts across the life cycle of our smoke-free products, we set our 2025 eco-design and circularity ambitions, which extend to electronic devices, accessories, consumables, and packaging, including:</p> <ul style="list-style-type: none"> - reducing the carbon footprint of smoke free products to below that of combustible cigarettes per user; - ensuring 100% of packaging materials are recyclable and 95% are from renewable sources. <p>Potential benefits include energy savings, reduced use of natural resources, waste reduction, and, typically, a longer product lifespan. In 2019 we developed our design for sustainability guidelines and trained 65 employees in the design and engineering functions; we spent approx. \$500k on LCAs (products, development and implementation of our sustainable design program working with external agencies).</p>
<p>Supply chain and/or value chain</p>	<p>Yes</p>	<p>Physical climate change risks could affect, with a medium impact, our own operations and those of our suppliers globally. Changes in precipitation patterns and extreme</p>

		<p>variability in weather patterns could affect the yield, quality and availability of key crops, such as tobacco leaves and cloves, changing our buying patterns and increasing operational costs. Increased drought/flooding could disturb the tobacco leaf life cycle stages in several countries from where we sourced from in 2019, driving strategy interventions in impacted areas. Flooding may require pumping of excess water; similarly, extreme droughts may require long-term irrigation, increasing energy consumption and production costs. The financial implications of these risks vary depending on the impacted asset. E.g., in our tobacco growing areas in Brazil and Philippines they could cause interruptions in our supply chain with a financial impact ranging from \$4 million to \$13.5 million. To prevent these impacts from materializing, PMI has adapted its management strategy at the short-medium term.</p> <p>We take into consideration those risks in the strategic decision and annual planning of our tobacco leaf inventories which can help mitigate short to medium term impacts. To support addressing these risks PMI embedded environmental sustainability considerations in Good Agricultural Practices (GAP) and Responsible Sourcing Principles (RSP) since 2002 and 2017 and required suppliers to comply with them. PMI actively engaged with its suppliers and embarked in initiatives to support farmers in its supply chain to improve their resiliency and seize opportunities by adopting improved and innovative practices. In the strategic decision and annual planning of our tobacco leaf inventories we include consideration on the impact that GAP initiatives had since its implementation to mitigate those risks and its increasing influence over time in the short to medium term. E.g., PMI has invested around \$320k between 2018 and 2019 to support farmers in the Philippines and in Indonesia with irrigation, focusing on more sound and efficient technologies (e.g. drip irrigation) contributing to climate change mitigation efforts.</p> <p>In the long-term our business strategy focuses on physical adaptation and long-term emissions reduction including approved of Science-Based Targets to reduce our value chain absolute carbon footprint.</p>
Investment in R&D	Yes	<p>Increasing consumers' awareness on climate change risks can generate fluctuations in supply & demand and create downstream market risks and opportunities associated with shifting consumer demands for lower-carbon products. In 2019 we conducted market-research studies with our RRP</p>

		<p>consumers and legal age smokers (LAS) in order to quantify their Heated Tobacco Units (HTUs) disposal behavior and impact on purchasing decisions linked to perceived environmental issues, including climate change. These results enabled a cost/benefit analysis of developing and commercializing more sustainable products and services and will be used to build a long-term roadmap for our RRP's and prioritize our initiatives.</p> <p>Product eco-design and circularity is now integral part of our R&D work and embedded in our long-term strategy to support our smoke-free future vision. With respect to our smoke-free products, in 2019 we set our 2025 eco-design and circularity ambitions, which extend to electronic devices, accessories, consumables, and packaging.</p> <p>Our journey to meet these goals relies on a systematic management approach in which sustainability is considered from the start of the product development process. The way we work is guided by the foundation principles of eco-design and circularity, which account for impacts relating to materials sourcing, product function and design, manufacturing, use, and end-of-life.</p> <p>In our operations, eco-design principles inform how we use life-cycle analysis (LCA) to assess the comparative carbon footprint of our products, from tobacco sourcing to end-of-life impacts. So far, we have analyzed IQOS, IQOS MESH, consumables (heated tobacco units), and packaging. Additionally, we are finalizing the results for the new generation of our Platform 4 product, the IQOS VEEV. This new version shows a continued improvement in CO2 footprint reduction driven by efforts to reduce the overall product size, decreasing material usage.</p> <p>In 2019 we spent approx. \$500k on LCAs (products, development and implementation of our sustainable design program working with external agencies).</p> <p>We are shareholder of Profigen, a tobacco seed producer, and we also invest in developing drought and flood tolerant tobacco seed varieties as low impact opportunity and conducted field trials (Brazil) to test their performances.</p>
Operations	Yes	<p>Beyond its human repercussions, climate change threatens business continuity. This is especially the case for businesses involving an agricultural supply chain. For PMI, costs of raw materials such as tobacco leaf and cloves may rise, and both consumers and our employees are becoming increasingly sensitized to the environmental impact of corporate actions. Upfront investments with longer-term</p>

	<p>returns are required. Furthermore, the consequences of climate risk could expose investors to changes in corporate stock value.</p> <p>At the same time, PMI's efforts to reduce GHG, such as through increased energy efficiency, could alleviate potential costs and create a competitive advantage by meeting or exceeding the expectations of consumers, employees, and other stakeholders.</p> <p>In 2019, we established new and more ambitious targets to guide our decarbonization journey:</p> <ul style="list-style-type: none"> - PMI to be carbon-neutral by 2030 (scope 1 and 2); - our value chain to be carbon neutral by 2050 (scope 1, 2, and 3); - a reduction in absolute CO2 emissions consistent with Science-Based Targets Initiative for a 1.5-degree trajectory to be submitted in 2020 for validation. <p>Our climate change strategy has a key role in the medium and long term to enable efficiencies in our operations, which keeps us ahead of our competitors and believe that fulfilling our reduction targets puts us in a better strategic position when customers/investors assess our performance.</p> <p>Moreover, mitigating climate change risks by decarbonizing our operations and value chain, we will increase our resilience in the long term.</p> <p>In the long-term our business strategy focuses on physical adaptation and long-term emissions reduction including:</p> <ul style="list-style-type: none"> - long-term sourcing strategies integrating CCROA considerations; - customer and supplier sustainability strategies aligned with ours to ensure that our value chain progress supports our objectives. <p>Our strategy and decisions are influenced by understanding and adapting to potential future climate change issues and by minimizing our environmental impact. We integrate climate related physical and transition risks and opportunities related to regulation, reputation and market by implementing carbon emission reduction projects with longer payback period in our facilities, sourcing voluntary green electricity to decrease our dependence from fossil fuels and reduce our carbon footprint, among others.</p>
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C3.1e

(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Direct costs Indirect costs Capital expenditures Capital allocation Assets	<p>A clear international trend towards increasing and stricter climate-related regulations exists. Though compliance with country-specific legislation increases operating costs, it provides PMI with the opportunity to reduce energy consumption, CO2 emissions and operational costs. PMI has adapted its financial planning to address climate risks and seize opportunities related to direct and indirect costs, capital expenditure and allocation, and assets in the short (0-1 year), medium (1-5 years) and long- time horizons (5-15 years). Some examples of how financial planning has been influenced by climate-related risks and opportunities include:</p> <ul style="list-style-type: none"> - renewable energy generation subsidies are factored into our cost-benefit analyses to improve return on investment, estimated to be over \$1M throughout our global operations and is already implemented in our sites like in Italy, Turkey, Lithuania, Ukraine, Serbia, Greece, Indonesia and Mexico; - schemes such as the EU Emission Trading Scheme (EU ETS), which covers in 2019, 2 PMI owned and operated factories in the Netherlands and Italy. The expansion of the EU ETS to include EU accession countries where PMI has facilities have influenced our investments with energy saving initiatives and Drive for Zero; e.g. in 2019 Romania we allocated a budget of \$1M to that. This provides us with the opportunity to apply our experience in these new countries or other regions considering introducing similar schemes; - energy taxes, such as in Germany, incentivized us to implement an Energy Management Program to ISO 50001, saving us an estimated \$800k in energy tax reductions. For our global operations, such levies and taxes are estimated at around \$2M. <p>The transition risk of increased production costs for farmers due to changing input prices, specifically diesel costs, has been evaluated as having a potential medium to low impact in the long term on procurement expenditure related to tobacco from third-party leaf suppliers and directly contracted farmers.</p> <p>Diesel is widely used in many farming practices. PMI's supply chain and its purchases of tobacco leaf are influenced by the cost of production for farmers, with mechanized activities at field level (i.e. dependent on diesel) for approximately 80% of our purchased volume. Energy is a significant cost in farming practices in relation to the mechanical equipment used. If diesel prices increase the overall cost of producing raw tobacco at directly contracted farms, as well as the cost of sourcing tobacco from third-party leaf suppliers, will increase as a result. This in turn would cause an</p>

associated indirect increase in procurement costs as the price of tobacco would respond to upward pressure on the cost of production, based on surveyed data collected from farmers with diesel expenditure representing up to 10% of the overall cost of production. A key factor in diesel prices is global oil prices, which are expected to have different developments depending on the transition pathway taken at a global level. Under transition pathways aligned to 2 degrees scenario or below, the oil demand will be lower than under scenarios associated with greater temperature increases. As such the expected increase in oil prices and indirectly tobacco prices paid by PMI is lower in a 2-degree scenario. Since 2002 we have been implementing the Good Agricultural Practices (GAP) program. GAP is a program with mandatory requirements for our tobacco suppliers and their contracted farmers, which provides specific guidance on initiatives to mitigate tobacco growing risks and impacts related to climate change such as transition market risks related to fuel prices increase. A set annual budget is allocated to initiatives to promote the adoption of improved and innovative practices by the farmers in our supply chain lowering fuel consumption, dependency on fuel and overall production costs.

Over the past years, the raising attention of PMI to mitigate climate change related risks influenced our financial planning and resulted in an increase of the yearly allocated budget to support farmers in its supply chain to improve their resiliency and seize opportunities in the low carbon economy.

Strategic initiatives include improving efficiency and reducing mechanized activities at field stage, improving tobacco curing efficiency and switching to low-carbon energies, and thus making tobacco suppliers, their farmers and PMI more resilient to price increments on diesel and diesel products, for instance.

In 2019, based on our financial planning PMI allocated an annual budget accounting for approx. \$4.5M in investments in climate risk mitigation practices under the GAP program word wide. Similar yearly investment is expected over the next 10 years (long term).

In 2019, the gradual switch to renewable sources and efficiency led to:

- 51% of flue-cured tobacco we purchased was cured using renewable and traceable fuels (mainly in PK, PH, IT, ES, MW, MZ, MX, BR and AR);
- increased collaboration with PMI Leaf suppliers on climate change related risks and shared value creation.

In 2019, we continued our Marginal Abatement Cost Curve (MACC) approach to identify where to act by comparing and ranking all our GHG reduction projects globally based on their cost-effectiveness in reducing emissions. We have also set an internal carbon price (\$17 per ton CO₂e), necessary to drive the expenditures needed and refresh our list of initiatives. E.g. in 2019 we implemented a 6MW power photovoltaic plant in our facilities in Italy for an overall total of 6,660 square meters of photovoltaic panels, contributing to a total of over

		<p>72,300 square meters of photovoltaic panels in our manufacturing facilities globally.</p> <p>In addition, \$10M/year in our energy management program and \$200K/year to maintain our global energy metering system. Based on the investments made in previous years we evaluated an expected annual budget for capital expenditures of \$7-9M per year over a 10-12 years' timeframe.</p> <p>We have an extensive risk control program whereby locations with values exceeding \$30M are surveyed by engineers from our property insurer including physical risks. We have several locations that do have natural catastrophe exposures including flood risk, however this is addressed through risk improvement recommendations for physical mitigation solutions or implementation/reinforcement of management (administrative) controls such as protect openings, raise equipment, and implement Flood Emergency Response Plans. In 2019 we had, worldwide, less than a dozen natural catastrophe related recommendations that exceed a \$10M loss expectancy.</p> <p>This information is reviewed regularly with top management. It enables risk/opportunity identification and management at the company and asset level.</p> <p>From our Climate-Change Risks Assessment, we have identified Revenues, and access to capital as not yet impacted, and Acquisitions & divestments and liabilities as not impacted at all.</p>
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C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Our approach to decarbonizing our operations and value chain is guided by several corporate policies. Reducing our energy consumption and carbon emissions is embedded in our Environmental Commitment, our Guidebook for Success, our Responsible Sourcing Principles (RSP), and our Good Agricultural Practices (GAP) program; protecting forests, as a fundamental climate-regulation mechanism, is directed by our Zero Deforestation Manifesto. It is integrated into normal business activities, forms part of our annual Long-Range Planning process which reviews and sets business direction, and performance appraisal process. For PMI, sustainability means creating long-term value while minimizing the negative externalities associated with our products, operations and value chain. We have an important impact on our communities and environment that we are mindful of and committed to address. In 2019, we refreshed our sustainability materiality assessment, which enabled us to further embed sustainability across PMI's strategies. Climate protection, littering prevention and product eco-design and circularity, emerged as tier 1 topics and are prioritized in our overall sustainability strategy.

We prepared our 2019 Integrated Report in accordance with the GRI Standards (Core option), aligned it with the principles and standards of the UN Global Compact and took into account those of the Sustainability Accounting Standards Board (SASB) We are part of the World

Business Council for Sustainable Development (WBCSD), WeMeanBusiness coalition and with our participation to the UNFCCC COP21 in Paris and our support to the Paris Agreement, we have continued to engage and demonstrate our commitments to climate change adaptation and mitigation.

We aim to reduce our carbon emissions across our value chain. We have several programs in place to meet corporate targets and achieve our ambition.

Following the 2018 report by the Intergovernmental Panel on Climate Change (IPCC), it became clear that we must step up our ambition and reduce carbon emissions to align with the more prudent 1.5-degrees pathway.

We also conducted a deeper analysis of our climate change risk assessment in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Based on these developments, we recently established new and more ambitious targets to guide our decarbonization journey:

- PMI to be carbon-neutral by 2030 (scope 1 and 2);
- our whole value chain to be carbon neutral by 2050 (scope 1, 2, and 3);
- a reduction in absolute CO₂ emissions consistent with science-based targets for a 1.5-degree scenario. During 2020 we will submit our revised absolute reduction targets to the Science-Based Targets Initiative Committee for validation and report on progress next year.

Our climate change strategy has a key role in enabling our business efficiency which keeps us ahead of our competitors and believe that fulfilling our reduction targets puts us in a better strategic position vs our competitors when customers/investors assess our performance.

In the short term our strategy focuses on effective risk management, emissions reduction and renewable energy strategy development including:

- Direct materials supplier engagement program - Energy Management Program
- 4-year green energy procurement roadmap
- Central governance for on-site renewable investments
- Lifecycle Assessments (LCAs) in cigarette/package components and new products
- Annual GHG footprint
- Action plans for mitigating risks and size opportunities

In the long-term our business strategy focuses on physical adaptation and long-term emissions reduction including:

- Approved science-based targets to reduce our value chain absolute carbon footprint
- Climate change risk and opportunities assessments (CCROA) to inform future management decisions (adaptation focus).
- Long-term sourcing strategies integrating CCROA considerations
- Customer and supplier sustainability strategies aligned with ours to ensure that our value chain progress supports our objectives

Our strategy and decisions are influenced by understanding and adapting to potential future climate change issues and by minimizing our environmental impact. We integrate climate related physical and transition risks and opportunities related to regulation, reputation and market by:

- a) Implementing carbon emission reduction projects with longer payback period
- b) Sourcing voluntary green electricity to decrease our dependence from fossil fuels and reduce our carbon footprint

c) Embedding environmental sustainability considerations in our GAP and RSP since 2002 and 2017 respectively.

PMI supported the call for a price on carbon in the Paris Climate Agreement. Our targets, recognized by the Science-Based Targets initiative in 2017, demonstrate how PMI can contribute to keeping global warming below 2°C based on pre-industrial levels and remain financially competitive (IR2019 PDF link).

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Both absolute and intensity targets

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Year target was set

2016

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2010

Covered emissions in base year (metric tons CO₂e)

914,050

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2030

Targeted reduction from base year (%)

40

Covered emissions in target year (metric tons CO₂e) [auto-calculated]

548,430

Covered emissions in reporting year (metric tons CO₂e)

555,882

% of target achieved [auto-calculated]

97.9618182813

Target status in reporting year

Underway

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)

This target covers scope 1 and 2 emissions from owned and operated buildings, factories and fleet. In 2016 we submitted this target and it was approved by the Science Based Target initiative (SBTi) in 2017.

In 2019 we achieved 39% reduction versus our 2010 baseline and thus 98% achieved ($39\%/40\%*100=98\%$). This achievement has been possible thanks to increased energy efficiency in our factories, on-site renewable investments, sourcing power from renewable resources and a program to reduce emissions in our vehicles fleet.

Target reference number

Abs 2

Year target was set

2016

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2010

Covered emissions in base year (metric tons CO₂e)

914,050

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2040

Targeted reduction from base year (%)

60

Covered emissions in target year (metric tons CO₂e) [auto-calculated]

365,620

Covered emissions in reporting year (metric tons CO₂e)

555,882

% of target achieved [auto-calculated]

65.3078788542

Target status in reporting year

Underway

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)

This target covers scope 1 and 2 emissions from owned and operated buildings, factories and fleet. In 2016 we submitted this target and it was approved by the Science Based Target initiative (SBTi) in 2017.

In 2019 we achieved a 39% reduction versus our 2010 baseline and thus 60% achieved ($39\%/60\%*100=65\%$). This achievement has been possible thanks to increased energy efficiency in our factories, on-site renewable investments, sourcing power from renewable resources and a program to reduce emissions in our vehicles fleet.

Target reference number

Abs 3

Year target was set

2016

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based) +3 (upstream & downstream)

Base year

2010

Covered emissions in base year (metric tons CO₂e)

8,062,275

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2030

Targeted reduction from base year (%)

40

Covered emissions in target year (metric tons CO₂e) [auto-calculated]

4,837,365

Covered emissions in reporting year (metric tons CO₂e)

4,682,492

% of target achieved [auto-calculated]

104.8023975863

Target status in reporting year

Achieved

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)

This target covers scope 1, 2 and 3 emissions from all operations and our entire value chain. In 2016 we submitted the target that was approved by the Science Based Target initiative in 2017 (SBTi).

In 2019 we achieved a 42% reduction versus our 2010 baseline and thus 105% achieved ($42\%/40\%*100=105\%$). This achievement has been possible thanks to progress in reducing our environmental impact across our value chain: in our factories and fleet where our carbon footprint is relatively small compared to other industries, as well as beyond the factory gates. That includes looking at both our upstream supply chain activities (currently focusing on tobacco farming and direct materials) and downstream, following our product and packaging environmental impacts to end-of-use.

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Year target was set

2012

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based) + 3 (upstream and downstream)

Intensity metric

Other, please specify

kg CO₂e per million cigarette equivalent sold

Base year

2010

Intensity figure in base year (metric tons CO₂e per unit of activity)

8,706

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2020

Targeted reduction from base year (%)

30

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

6,094.2

% change anticipated in absolute Scope 1+2 emissions

-39

% change anticipated in absolute Scope 3 emissions

-42

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

5,917

% of target achieved [auto-calculated]

106.784593001

Target status in reporting year

Achieved

Is this a science-based target?

No, but we are reporting another target that is science-based

Please explain (including target coverage)

This target covers scope 1, 2 and 3 emissions from all operations and our full value chain per million of cigarette equivalent sold. From 2018 onwards we are reporting energy intensity based on sold units of equivalent cigarettes (versus produced units of cigarettes equivalent previously).

In 2019 we achieved a 32% reduction versus our 2010 baseline (8,706 kg CO₂ per million of equivalent cigarettes sold) and thus 106% achieved ($32\%/30\%*100=106\%$).

This achievement has been possible due to progress in reducing our environmental impact across our value chain: in our factories and fleet where our carbon footprint is relatively small compared to other industries, as well as beyond the factory gates. That includes looking at both our upstream supply chain activities (currently focusing on tobacco farming and direct materials) and downstream, following our product and packaging environmental impacts to end-of-use.

% change anticipated in absolute scope 1+2 and scope 3 emissions are dependent on 2020 production volumes and ratio between conventional cigarettes vs smoke-free products, that is rapidly changing due to the growth of our smoke-free products.

The % anticipated change in emissions in scopes 1, 2 and 3 have been calculated based on achieved reductions in 2019, which exceeds the original 2020 intensity target, and we expect to further improve this reduction by 2020.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production
Other climate-related target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2019

Target coverage

Business activity

Target type: absolute or intensity

Absolute

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

Base year

2010

Figure or percentage in base year

0

Target year

2025

Figure or percentage in target year

100

Figure or percentage in reporting year

72

% of target achieved [auto-calculated]

72

Target status in reporting year

New

Is this target part of an emissions target?

This target is directly linked with our scope 1 and 2 absolute reduction target (Abs1 & Abs2).

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This target covers the amount of electricity purchased and self-generated from renewable sources. Our initial target, set in 2016, aimed at 100% renewable by 2030. This target was amended in 2019 for 100% by 2025 to reflect our increased ambition level.

In 2019, 72% of our manufacturing facilities' electricity consumption was sourced from renewable sources versus our 2010 baseline where we were not sourcing/generating any. Thus 72% achieved ($72\%/100\%*100=72\%$). This achievement has been possible mainly due to European factories sourcing or generating green electricity. In 2019, for

the first time one factory in Indonesia switched to electricity from hydro plants. We will continue sourcing more renewable electricity as it becomes available in the countries where we operate.

The 100% green electricity target covers all our factories and is part of PMI strategy to first and foremost drive toward a low-carbon economy by promoting the renewable energy industry as an alternative to fossil fueled energy and subsequently reduce our scope 2 emissions.

To achieve our ambitious Science Based Targets, PMI uses all the strategic tools and mechanisms that have been identified as good practices by the recognized international standards, including RE100 and EP100 guidelines to manage our company's energy consumption.

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2015

Target coverage

Business division

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Engagement with suppliers

Other, please specify

Percentage of Virginia Flue Cured tobacco suppliers disclosing GHG emission related data

Target denominator (intensity targets only)

Base year

2017

Figure or percentage in base year

0

Target year

2020

Figure or percentage in target year

100

Figure or percentage in reporting year

100

% of target achieved [auto-calculated]

100

Target status in reporting year

Achieved

Is this target part of an emissions target?

Yes, Abs 3

Is this target part of an overarching initiative?

Science Based Targets initiative

Please explain (including target coverage)

As tobacco accounted for around 40% of PMI's carbon footprint in our 2010 baseline, PMI set goals and developed strategic initiatives to reduce GHG emissions related to tobacco growing including the emissions generated by the fuels used for the flue-cured Virginia (FCV) tobacco curing process. At the corporate level, PMI uses its GHG emission inventory to track emission reductions and flag potential deviations to ensure swift responses. At the supplier level, PMI uses the Monitoring Framework (MF) for Sustainable Leaf Curing Fuel, a mandatory requirement for all FCV suppliers (i.e. 100%), which requires them to report primary data (e.g. curing fuel type, fuel consumption, barn type, etc.), allowing PMI to calculate the GHG emissions from the overall tobacco curing process. This figure is used within PMI's year-on-year value chain GHG footprint calculations, contributing to the Abs3 target highlighted in C4.1a. The 3 strategic initiatives within the MF are: ▪ Reduce fuel consumption rate via curing efficiency improvement and curing barn optimization programs; ▪ Move from unsustainable to sustainable curing fuel sources; ▪ Encourage fuel switching to less polluting fuels and the use of biomass as an alternative to unsustainable wood fuels or fossil fuels where appropriate. The global roadmap for sustainable firewood provides a timeline for the achievement of the three targets above, the set timeline for their achievement by all FCV tobacco suppliers is until 2020. PMI is supporting and engaging in capacity building activities with tobacco leaf suppliers to ensure they are able to comply with the Monitoring Framework by 2020 and beyond. Through the third-party verification process, we keep an unbiased track of our progress against our target of 100% by 2020 is on track and properly being reported.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	3,448	
To be implemented*	326	29,000
Implementation commenced*	137	27,000
Implemented*	71	327,906
Not to be implemented	346	

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Transportation
Company fleet vehicle replacement

Estimated annual CO2e savings (metric tonnes CO2e)

3,889

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

500,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

This initiative reflects the CO₂e saved through the replacement of greener vehicle (both benefit vehicle and working tools) within PMI fleet.

The monetary savings are calculated on the amount of fuel saved multiplied by an average worldwide price for fuel in 2019.

Initiative category & Initiative type

Energy efficiency in buildings

Building Energy Management Systems (BEMS)

Estimated annual CO₂e savings (metric tonnes CO₂e)

362

Scope(s)

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

61,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In total 2 initiatives on the optimization of the BMS of our factories to reduce energy consumption and optimize efficiency.

Initiative category & Initiative type

Energy efficiency in buildings

Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)

968

Scope(s)

Scope 1
Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

140,000

Investment required (unit currency – as specified in C0.4)

255,000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

11 initiatives in HVAC systems optimization and modernizations in existing units in our manufacturing centers.

Initiative category & Initiative type

Energy efficiency in buildings
Insulation

Estimated annual CO2e savings (metric tonnes CO2e)

125

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

26,000

Investment required (unit currency – as specified in C0.4)

120,000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

Upgrade of thermal insulation to reduce energy consumption in buildings by preventing heat gain/loss through the building envelope. Initiative implemented in our manufacturing facility in Kazakhstan.

Initiative category & Initiative type

Energy efficiency in buildings

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

881

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

170,000

Investment required (unit currency – as specified in C0.4)

585,000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

These are initiatives mainly focused on installation of LED lighting in our factories. In total 6 initiatives in 2019.

Initiative category & Initiative type

Energy efficiency in production processes

Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)

2,796

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

445,000

Investment required (unit currency – as specified in C0.4)

700,000

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

10 initiatives implemented in our factories compressed air systems, mainly focusing in the decrease of pressure, equipment modernization, leakages prevention, to name some.

Initiative category & Initiative type

Energy efficiency in production processes
Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)

1,954

Scope(s)

Scope 1
Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

750,000

Investment required (unit currency – as specified in C0.4)

2,800,000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

Five initiatives in central cooling systems implemented in our factories in 2019.

Initiative category & Initiative type

Energy efficiency in production processes
Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)

620

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

140,000

Investment required (unit currency – as specified in C0.4)

575,000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

Five initiatives that concern the replacement of old equipment in different functions.

Initiative category & Initiative type

Energy efficiency in production processes
Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)

58

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

7,250

Investment required (unit currency – as specified in C0.4)

7,100

Payback period

1-3 years

Estimated lifetime of the initiative

3-5 years

Comment

This initiative was implemented in our factory in Indonesia and concerns the installation of magnetic motor in the chiller pump, reducing the energy consumption and thus the scope 2 CO2 emissions.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

3,821

Scope(s)

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

615,000

Investment required (unit currency – as specified in C0.4)

750,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In 2019 we implemented 14 process optimization initiatives with energy and CO2e reduction potential. One example is the improvement in the efficiency of the steam boiler in our factory in Italy. This initiative that will reduce 1,500 metric tonnes of CO2e per year.

Initiative category & Initiative type

Energy efficiency in production processes
Reuse of water

Estimated annual CO2e savings (metric tonnes CO2e)

13

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

2,800

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

Installation of 4 condensates return points back to Boiler feedwater tank in our factory in Pakistan. This initiative will reduce the energy need for the heating of the feedwater, thus our CO2 emissions.

Initiative category & Initiative type

Energy efficiency in production processes
Waste heat recovery

Estimated annual CO2e savings (metric tonnes CO2e)

1,225

Scope(s)

Scope 1
Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

260,000

Investment required (unit currency – as specified in C0.4)

260,000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2019 we implemented 7 initiatives in our manufacturing centers. An example is the initiative of our factory in Switzerland where we installed two heat pumps of 600 kW each to use the return water from the cooling system. The latter is fed on the lake water next to the factory.

Initiative category & Initiative type

Energy efficiency in production processes
Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

2,200

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

55,000

Investment required (unit currency – as specified in C0.4)

25,000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

In 2019 we decommissioned two Coal Fired Boilers in our factory in South Africa and replaced them with the existing fuel oil one. Another initiative was the fuel switch in our flash tower dryer in our factory in Russia, from diesel to natural gas.

Initiative category & Initiative type

Low-carbon energy consumption
Low-carbon electricity mix

Estimated annual CO2e savings (metric tonnes CO2e)

39,045

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

85,000

Payback period

No payback

Estimated lifetime of the initiative

1-2 years

Comment

Renewable energy (certified green electricity) procurement for most of our EU facilities, Serbia, Mexico, Colombia and Turkey which commenced in 2014 and in 2019 expanded to new countries like two factories in Indonesia. All certificates are available for 2019. Investment is the current additional amount paid for green electricity.

Initiative category & Initiative type

Low-carbon energy generation
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

2,031

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

475,000

Investment required (unit currency – as specified in C0.4)

1,125,000

Payback period

No payback

Estimated lifetime of the initiative

16-20 years

Comment

In 2019, we installed a 6 Megawatts solar PV system, the biggest installed in 2019 in Italy

Initiative category & Initiative type

Company policy or behavioral change
Resource efficiency

Estimated annual CO2e savings (metric tonnes CO2e)

16,591

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

60,900,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

3-5 years

Comment

Productivity program co-lead by Procurement and Product Development teams focusing on Direct Materials (DIMs) to identify and implement opportunities of: specification harmonization, specification optimization thru down gauging, material usage optimization and reduction, material substitution, waste optimization/reduction and reuse, and material removal. No investment is required since the further deployed specifications are already existing and running on our production lines and do not require capex.

The Program was initiated beginning of 2019, with first deployment on our production lines of certain projects in 2019 following quality and machinability tests. Some other initiatives, requiring more extensive testing procedures and/or production capacity planning on supplier's side, are expected to commence in 2020.

Scope 3: category 1 purchased goods

Initiative category & Initiative type

Company policy or behavioral change

Other, please specify

Increase Supply Chain network visibility to improve demand forecasts and optimize production planning, reducing requirements of DIM

Estimated annual CO2e savings (metric tonnes CO2e)

5,064

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

130,000,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

3-5 years

Comment

Our Direct Materials expenditure has a strong link with our ability to forecast our production requirements to serve the demand.

Also, the carbon footprint linked to DIM usage is determined by the quantity of such materials that we are required to purchase each year to feed our production lines.

While demand suffers short term notice major fluctuations, the industrial processes behind the supply chains of DIM has not the required flexibility to adjust accordingly. Indeed, lot sizes are applied to purchase orders with minimum order quantities requirements from suppliers. This creates left overs of DIM ordered, delivered and unused.

These materials have many specificities [designs, languages, sizes, machine park specificities] that generates low interchangeability and/or re-usability levels in case of leftovers from production.

This program aims at increasing our demand planning capability, by installing new processes and tools, reducing the amount of leftovers from production by better adjusting our requirements' call offs to our production needs.

Scope 3: category 1 purchased goods

Initiative category & Initiative type

Company policy or behavioral change
Resource efficiency

Estimated annual CO2e savings (metric tonnes CO2e)

246,262

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

4,500,000

Payback period

No payback

Estimated lifetime of the initiative

6-10 years

Comment

In our tobacco supply chain, we achieved an absolute reduction in 2019 of 246,262 tons of CO2e vs 2018 from improvements in tobacco curing process and fertilizer use, which are the main GHG emission contributors within tobacco scope 3 sub-categories. While most farmers own their curing barns, PMI and our suppliers provide guidance and support to make them more fuel-efficient (e.g. combustion efficiency, ventilation, and heating control, insulation), monitoring the results in GHG reduction. The improvement projects carried out in 2019 increased the efficiency of 4,731 barns in all markets where we source from, for a cumulative total of 80,782 barns upgraded since 2014. In 2019, we delivered improvement projects around the world, including training farmers on fuel efficiency. We are seeing farmer profitability improve as a result of cost savings on farms.

While we encourage minimizing the use of fertilizers in our supply chain in line with our Good Agricultural Practices (GAP) program, technological developments in the manufacturing process for fertilizers have also contributed to reducing their GHG footprint. In 2019, PMI updated its calculation model for fertilizers' GHG emissions to more precisely assess their impact on the company's carbon footprint in addition to further decrease in fertilizer use. The internal investment of 4.5M reflects the annual

budget allocated in 2019 to environmental projects under the GAP across all regions.
Scope 3: category 1 purchased goods

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for energy efficiency	<p>Our Energy Management Program (over \$100 million in investments from 2010-2019) aims to reduce our factories' energy consumption and help achieve greenhouse gas emissions reduction targets. In 2019 we achieved a reduction of 39.2% of our scope 1 and 2 compared to our 2010 baseline and progressing towards our target to reduce 40% by 2030 – almost met 10 years ahead of schedule – and 60% by 2040.</p> <p>Our Drive 4 Zero program, which aims to eliminate economic losses caused by inefficient energy use. Under the program, we look for industrial and manufacturing solutions such as heat recovery and manufacturing-process optimization. We also promote behavioral change through our Zero Loss Mindset program.</p> <p>To support our Drive 4 Zero program, an Energy Saving Initiatives (ESIs) program has been started in 2019, triggering more than 500 projects worldwide including among many others LED lighting, HVAC upgrade, chilled water optimization and heat recovery projects.</p>
Marginal abatement cost curve	<p>We consider a longer rate of return (4 years or more) for certain energy savings and renewable energy projects. Using a Marginal Abatement Cost Curve (MACC) methodology, we set in 2016 an internal price on carbon of \$17 per ton of CO2 abated and created a central governance budget for renewable investments. This practice will be discontinued and be substituted with the new internal carbon shadow price mechanism (see internal carbon price method below).</p>
Dedicated budget for other emissions reduction activities	<p>We have developed a renewable energy strategy with an initial focus on low-carbon electricity uptake in the EU. We commenced the program in 2012 and continued to implement it in more facilities in 2019. We continue to seek new opportunities to purchase greener energy. In order to drive the adoption of low-carbon electricity sources within our entire organization, we set the more stringent target to have 100% of our affiliates switched to green electricity by 2025. We are well progressing as we have already reached 72% in 2019.</p>

<p>Compliance with regulatory requirements/standards</p>	<p>We take the opportunity of regulatory developments to achieve energy/emissions reductions (e.g. Switzerland - carbon tax exemption following a process upgrade) and particularly when investing in new processes (e.g. requirements for renewable energy or energy efficiency) for new or upgraded facilities in Greece and Italy, under EU ETS scheme.</p> <p>This has allowed us to delist sites in Germany and Portugal from the EU ETS scheme in previous years.</p>
<p>Employee engagement</p>	<p>Employee engagement is implemented through our objective setting, Long-Range Planning process and via employee communications, sharing of tools, guidance and best practices. In 2019, the communication team in PMI Operations supported the engagement of all operations employees (more than 20,000 people are working in PMI's operations worldwide) who received senior management briefings on sustainability topics including Climate Change, carbon footprint, renewable energies, etc. Local market EHS managers and Sustainability coordinators run specific focus days and campaigns in all markets where we operate.</p>
<p>Other Dedicated budget to incentivize other emissions reduction initiative in our agricultural supply chain</p>	<p>GAP is a broad program with 4 sustainability-related pillars – governance, people, crop and environment – implemented by our leaf suppliers and contracted farmers. It promotes an Integrated Production System which supports farmers in improving yield and farm efficiency on a variety of crops (particularly food crops) and not only tobacco. Through GAP , environmental improvement programs are implemented in all the countries where we source tobacco around the world; these programs include among others: curing barn efficiency improvements; curing fuel switching to low GHG emitting fuels; eliminating the use of coal; increasing the use of biomass; and helping farmers become wood self-sufficient and seeking traceable sources of sustainable wood.</p>
<p>Internal price on carbon</p>	<p>Over the last years, PMI has applied an internal carbon price of \$17 per ton of CO₂e in order to allocate capital for the best return in terms of carbon reduction and cost-effectiveness. As we are stepping up our ambition to reduce carbon emissions, we started an internal project to define a carbon price that will align with the 1.5-degree target and help to solidify the company's climate leadership.</p> <p>Internal carbon pricing allows us to reduce carbon emissions, mitigate climate-related business risks, and identify opportunities to accelerate the achievement of our carbon-neutrality targets. PMI has started an internal project to define a carbon price that will align with the 1.5-degrees Celsius target and help to solidify the company's climate leadership. Based on a comprehensive</p>

	<p>review of policies and methodologies applied by organizations across a variety of industries, we recognize the importance of defining a carbon price that will remain consistent over time and ensures that climate transition risks are embedded in internal decision to invest in carbon reduction initiatives. We plan to set a shadow price to drive internal expenditure decisions as well as a carbon levy:</p> <ul style="list-style-type: none"> - an internal shadow carbon price mechanism has been developed to assess and prioritize investments across our manufacturing sites with the objective to drive the implementation of technologies that can support CO2 emissions contraction including the adoption of renewables; - a carbon levy would enable us to internalize external costs by charging our business functions or affiliates for their respective emissions. With the aim of supporting behavioral change, the levy would be collected in a climate fund, which could finance high-quality carbon insetting or off-setting projects. <p>We plan to finalize our approach during 2020 and report next year on its implementation.</p>
<p>Dedicated budget for low-carbon product R&D</p>	<p>Our 2025 eco-design and circularity ambition, which extend to electronic devices, accessories, consumables, and packaging, is to reduce the carbon footprint of smoke-free products to below that of combustible cigarettes per user.</p> <p>Our journey to meet these goals relies on a systematic management approach in which sustainability is considered from the start of the product development process. The way we work is guided by the foundation principles of eco-design and circularity, which account for impacts relating to materials sourcing, product function and design, manufacturing, use, and end-of-life.</p> <p>In our operations, eco-design principles inform how we use life-cycle analysis (LCA) to assess the comparative carbon footprint of our products, from tobacco sourcing to end-of-life impacts.</p> <p>Our long-term vision remains to recycle any waste that we collect while minimizing our CO2 footprint. In 2019, we continued to discuss with several waste management and recycling partners the potential second life that we could give to our recycled HTUs. Our exploration is primarily focused on the recycling of the cellulose acetate, the material our filters are made from. Our investigations to date show that the chemical properties of cellulose acetate enable the material to be upcycled into a variety of applications such as spinning of the fibers into fabrics or creation of pellets that can then be pressed/injection molded into a variety of hard goods. Though these results are promising, the recycling of cellulose acetate –</p>

	<p>unlike recycling for many metals or plastics – is not a widely available and developed waste stream across the globe that we can leverage.</p> <p>We will continue in 2020 to work with partners to evaluate innovative solutions that may enable us to bring our long-term vision of full circularity of our consumables to life.</p> <p>In addition to developing services to reduce the end-of-life impact of our products, our innovation and design teams are also exploring low carbon, recyclable, and biodegradable options for filters and cartridges. We are committed to significant investment into continued research on the biodegradability of filters, and we are working toward a viable solution that meets strict international standards, satisfies market requirements, and works with high volume manufacturing.</p>
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C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

No

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO₂e)

443,186

Comment

2010 has been the baseline since PMI has been reporting to CDP.

Scope 2 (location-based)

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO2e)

470,864

Comment

2010 has been the baseline since PMI has been reporting to CDP.

Scope 2 (market-based)

Base year start

January 1, 2010

Base year end

December 31, 2010

Base year emissions (metric tons CO2e)

470,864

Comment

2010 has been the baseline since PMI has been reporting to CDP.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

- European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations
- IEA CO2 Emissions from Fuel Combustion
- ISO 14064-1
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- Other, please specify
- Ecoinvent to estimate the CO2 embedded in products in certain products within our value chain;
- Defra Voluntary 2019 Reporting Guidelines

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

We aim at using the most relevant and/or updated conversion factor for each activity data and calculated emissions.

We ensure we remain as up to date with newly released coefficient by DEFRA when they release updated conversion factors. We started using IEA because the conversion factors for electricity at country level are not provided by DEFRA or GHG Protocol anymore.

In some case, primary data are not possible to use, this is even more true within our value chain (scope 3) calculations. For example, for purchase goods considering the high volume of goods purchased, we rely on Ecoinvent to apply the most accurate methodology

GHG protocol is used de facto for countries where there are no national conversion factors guidance (Latin America or Asia).

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO₂e?

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

397,210

Comment

Our scope 1 emissions correspond to manufacturing, offices, warehouses and sales fleet.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Our scope 2 emissions correspond to manufacturing, offices and warehouses emissions.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, location-based

447,322

Scope 2, market-based (if applicable)

158,672

Comment

Our scope 2 emissions correspond to manufacturing, offices and warehouses emissions.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

3,079,756

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

48

Please explain

Includes emissions that are product-related (i.e. the materials purchased to make each product) and those emissions non-product-related (i.e. everything else, office stationery, advertising etc.). Closed to half of this category has been calculated using data received from our suppliers. The rest has been calculated based on material weights sourced or spending and specific emissions factors for each of the materials from international databases like BEIS (DEFRA) and Ecoinvent.

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

112,716

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Capital goods include emissions from goods that are used to manufacture/distribute PMI's products, or other office buildings and includes for example machinery, buildings or facilities.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

113,778

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes the emissions related to the production of fuels and electricity consumed by PMI. i.e. for all fuel-related emissions calculated as its scope 1&2 emissions, such as associated emissions to extract gas, coal and oil, transport and process prior to combustion, and losses in supplying electricity. All these emissions are accounted for in this category.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

437,675

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

26

Please explain

This category includes emissions from all purchased (non-owned) transport and distribution services. This includes inbound logistics, outbound logistics (i.e. sold products, if PMI has paid for/purchased the service) by land, sea and air freight, transport between PMI facilities and energy consumed in third party warehouses.

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,832

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the Corporate Value Chain (Scope 3) Accounting and Reporting Standard methodology from WRI. Our waste flows were broken up into over 50 different waste types and treatment methods. The Technical Guidance for Calculating Scope 3 emissions (GHG Protocol) publish emissions factors for the treatment of each type of waste. We calculated the GHG emissions of each type of waste flow by multiplying the tonnage of each waste flow by its associated emissions factor.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes emissions from the third-party disposal and treatment of waste generated by PMI's owned or controlled operations.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

111,283

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

79

Please explain

This category includes estimates of emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties. This includes emissions generated by employees travelling by air, road, rail and boat. It also includes the emissions due to stays in hotels.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

58,200

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes emissions arising from the transportation of employees between their homes and their worksites. Typically, this may include emissions from: automobile travel, bus travel, rail travel, air travel and other modes including subway, cycling and walking.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

This category includes emissions from the operation of assets that are owned by other entities and leased to the reporting company (acting as a lessee), and are not already included in scope 1 and 2.

PMI does lease some warehouse space from third parties with emissions that are not accounted for in scope 1 and 2. However, this warehouse space is included within category 4 – upstream transportation and distribution. The GHG Protocol refers to transportation and distribution, and for PMI the warehouses are part of the distribution network, leading to its reporting combined with transportation. Therefore category 8 has been excluded to avoid double counting.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

46,621

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category covers the transport of sold finished goods (FG) to the retailers and end-consumers. Transport relating to the end-consumer travelling to the retailer is generally not included under value chain or product footprinting standards.

PMI fleet transportation is included in Scope 1&2 emissions, therefore only non-PMI fleet transport is included in this category. Any transport / storage of sold products paid for by PMI is included in category 4, and excluded from this category.

Therefore, all transport distances input for Category 9 calculations should exclude PMI-owned and operated transport (Scope 1 & 2) and any Third Party (TP) services procured by PMI (Category 4). Some transport legs will have a mixture of two or three of these types of transport services, but Category 9 emissions relate to transport of sold goods paid for by independent external parties only.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

This category includes customer's emissions relating to the processing of intermediate products sold by a reporting company, such as the conversion of aluminum ingots into aluminum injection molded products.

This category was reviewed in 2018 and it has been concluded that PMI sold only final products to end-users, and no intermediate products which could be further processed, transformed or included into other products, therefore this category has been excluded.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

107,477

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category refers to emissions from the use of goods and services sold by PMI to end users, i.e. consumers that use these final products. Emissions from the P1 RRP product are predominantly caused by the electrical charging of the product. This category also includes emissions arising from the use of lighters and matches with conventional cigarettes, cigars and other tobacco products (OTP).

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

57,272

Emissions calculation methodology

Our Value Chain Model and Footprint is calculated to align with the accepted international standard for GHG value chain modelling "Corporate Value Chain (Scope 3) Accounting and Reporting Standard" methodology from WRI.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category refers to emissions from the waste disposal and treatment of products sold by PMI at the end of their life (EoL).

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

PMI does lease some office floor-space in certain offices around the world, but this has been confirmed as extremely small, and regarded as de minimis, therefore this category has been excluded.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Whilst PMI pays other entities to manufacture finished goods (accounted for in category 1a) from materials purchased by PMI (also accounted for in category 1a), as ownership of finished goods always returns back to PMI, there are no examples of franchise operations to account for, therefore this category has been excluded

Investments

Evaluation status

Not relevant, explanation provided

Please explain

PMI has no general portfolio investments utilizing cash reserves, and all shareholdings in subsidiaries have already been accounted for in scope 1&2 reporting, therefore this category has been excluded.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

There are currently no other (upstream) emissions at this time.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

There are currently no other (downstream) emissions at this time.

C-AC6.6/C-FB6.6/C-PF6.6

(C-AC6.6/C-FB6.6/C-PF6.6) Can you break down your Scope 3 emissions by relevant business activity area?

Yes

C-AC6.6a/C-FB6.6a/C-PF6.6a

(C-AC6.6a/C-FB6.6a/C-PF6.6a) Disclose your Scope 3 emissions for each of your relevant business activity areas.

Activity

Agriculture/Forestry

Scope 3 category

Purchased goods and services

Emissions (metric tons CO2e)

1,055,212

Please explain

These emissions include those corresponding to agricultural practices and inputs such as seedling, fertilizers, curing fuels and crop protection agents.

Our carbon footprint is based on actual data (primary data) and average industry data (secondary data), including a number of estimates and assumptions, using impact databases. Elements of our carbon footprint have been modeled using the Life Cycle Assessment (LCA) tool, Simapro. For our carbon footprint emissions, we undertook a 3rd party full scope 3 verification against ISO 14040 standards and the GHG Protocol Scope 3 Accounting and Reporting Standard. Due to the new baseline calculations, we have been able to use real data and in cases where no primary data was available extrapolated emissions from international databases such as Ecoinvent have been used.

Activity

Distribution

Scope 3 category

Upstream transportation and distribution

Emissions (metric tons CO2e)

437,675

Please explain

These emissions include those corresponding to upstream distribution due to ocean, air and overland transportation plus the warehouse emissions in distribution.

Our carbon footprint is based on actual data (primary data) and average industry data (secondary data), including a number of estimates and assumptions, using impact databases. Elements of our carbon footprint have been modelled using the Life Cycle Assessment (LCA) tool, Simapro. For our carbon footprint emissions, we undertook a 3rd party full scope 3 verification against ISO 14040 standards and the GHG Protocol Scope 3 Accounting and Reporting Standard. Due to the new baseline calculations, we have been able to use real data and in cases where no primary data was available extrapolated emissions from international databases such as Ecoinvent have been used.

Activity

Distribution

Scope 3 category

Downstream transportation and distribution

Emissions (metric tons CO2e)

46,621

Please explain

These emissions include those corresponding to downstream distribution due to in market local distribution.

Our carbon footprint is based on actual data (primary data) and average industry data (secondary data), including several estimates and assumptions, using impact databases. Elements of our carbon footprint have been modelled using the Life Cycle Assessment (LCA) tool, Simapro. For our carbon footprint emissions, we undertook a 3rd party full scope 3 verification against ISO 14040 standards and the GHG Protocol Scope 3 Accounting and Reporting Standard. Due to the new baseline calculations, we have been able to use real data and in cases where no primary data was available extrapolated emissions from international databases such as Ecoinvent have been used.

Activity

Consumption

Scope 3 category

Use of sold products

Emissions (metric tons CO2e)

107,477

Please explain

This activity considers the use of cigarette lighters.

Our carbon footprint is based on actual data (primary data) and average industry data (secondary data), including several estimates and assumptions, using impact databases. Elements of our carbon footprint have been modelled using the Life Cycle Assessment (LCA) tool, Simapro. For our carbon footprint emissions, we undertook a 3rd party full scope 3 verification against ISO 14040 standards and the GHG Protocol Scope 3 Accounting and Reporting Standard. Due to the new baseline calculations, we have been able to use real data and in cases where no primary data was available extrapolated emissions from international databases such as Ecoinvent have been used.

Activity

Consumption

Scope 3 category

End of life treatment of sold products

Emissions (metric tons CO2e)

57,272

Please explain

Downstream waste treatment and street cleaning related to cigarette butts and waste packaging.

Our carbon footprint is based on actual data (primary data) and average industry data (secondary data), including several estimates and assumptions, using impact databases. Elements of our carbon footprint have been modelled using the Life Cycle Assessment (LCA) tool, Simapro. For our carbon footprint emissions, we undertook a 3rd party full scope 3 verification against ISO 14040 standards and the GHG Protocol Scope 3 Accounting and Reporting Standard. Due to the new baseline calculations, we have been able to use real data and in cases where no primary data was available extrapolated emissions from international databases such as Ecoinvent have been used.

C-AC6.8/C-FB6.8/C-PF6.8

(C-AC6.8/C-FB6.8/C-PF6.8) Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?

No

C-AC6.9/C-FB6.9/C-PF6.9

(C-AC6.9/C-FB6.9/C-PF6.9) Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in C-AC0.7/FB0.7/PF0.7?

Agricultural commodities

Tobacco

Do you collect or calculate GHG emissions for this commodity?

Yes

Please explain

These emissions include those corresponding to agricultural practices and inputs such as seeding, fertilizing, curing fuels and crop protection agents and the logistics required to source tobacco from farms to our buying stations and from there to the stemmeries.

Agricultural commodities

Timber

Do you collect or calculate GHG emissions for this commodity?

Yes

Please explain

We collect and calculate emissions from curing fuels used for tobacco and other direct materials used in our manufacturing process like packaging, cigarette papers, acetate tow for filters, etc.

C-AC6.9a/C-FB6.9a/C-PF6.9a

(C-AC6.9a/C-FB6.9a/C-PF6.9a) Report your greenhouse gas emissions figure(s) for your disclosing commodity(ies), explain your methodology, and include any exclusions.

Timber

Reporting emissions by

Total

Emissions (metric tons CO₂e)

1,247,823

Change from last reporting year

Lower

Please explain

In 2019, 72,130 tCO₂e emissions were reduced in our timber-based materials supply chain. Our total emissions in the previous year were 1,319,953 tCO₂e (rebased figure from our 2019 carbon footprint analysis), resulting in 5.5% decrease: $(72,130/1,319,953)*100$. We achieved this by engaging with other direct materials suppliers using timber as raw material and inviting them to participate in our CDP supply chain; we collect primary data (e.g. emissions allocated) and collaborate with them to reduce carbon footprint.

Tobacco

Reporting emissions by

Total

Emissions (metric tons CO₂e)

1,245,304

Change from last reporting year

Lower

Please explain

In 2019, we reduced our emissions by 244,423 tCO₂e in our tobacco supply chain. Our total emissions in the previous year were 1,489,727 tCO₂e (rebased figure from our 2019 carbon footprint analysis), resulting in a 16.4% decrease: $(244,423 /$

1,489,727)*100.

Total emissions for tobacco include all activities performed and inputs used by farmers and relate to tobacco seedling production, fertilizers, pesticides, transport, mechanization and curing. Our Good Agricultural Practices (GAP) program promotes environmentally sustainable practices, including the elimination of highly hazardous pesticides, the promotion of bio-pesticides and the overall reduction of pesticide use, biodiversity management and reforestation, as well as water, soil, and waste management. A significant percentage of the total GHG emissions attributed to our tobacco purchases result from the curing process of Virginia flue-cured tobacco. We focus our effort on reducing GHG emissions from curing, setting a target to lower the GHG emission intensity by 70% by 2020, compared to a 2010 baseline.

In 2019 we achieved 61% emission intensity reduction versus 2010 from the tobacco curing process. To achieve this target, we focus on improving curing barn efficiency and eliminating the use of coal and non-sustainable firewood. In 2019, more than 190,000 tons of CO₂ were saved thanks to the combination of 3 factors: i) increased usage of renewable energies switching to lower emission fuels driven by the target of 70% of flue-cured tobacco purchased cured with renewable fuel sources by 2020 (2019 at 51%, from a mix of 36% sustainably sourced firewood and 15% biomass, vs a total 46% in 2018); ii) curing barn improvement initiatives and related impact on curing fuel consumption reduction due to efficiency gains; iii) volume allocation switch to markets with lower emission factors per kilo of cured tobacco.

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.00001865

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

555,882

Metric denominator

unit total revenue

Metric denominator: Unit total

29,805,000,000

Scope 2 figure used

Market-based

% change from previous year

5.38

Direction of change

Decreased

Reason for change

The reasons for change are: i) the decrease in absolute CO₂e emissions by 4.8% from 583,947 tons in 2018 to 555,882 tons in 2019, driven by carbon reduction activities in our manufacturing facilities (such as on-site renewable projects, energy efficiency projects and increased green electricity sourcing) and a 0.6% increase in net revenues (from \$29.6 billion in 2018 to \$29.8 billion in 2019). The intensity number is derived from our 2019 CO₂e emissions of 555,882 tons divided by net revenues of \$29.8 billion. The term “net revenues” refers to operating revenues from the sale of our products, excluding excise taxes, and net of sales and promotion incentives. We believe that the most appropriate basis of disclosure is net revenue (as defined) and in line with CDP guidance.

Intensity figure

7.56

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

555,882

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

73,500

Scope 2 figure used

Market-based

% change from previous year

0.26

Direction of change

Increased

Reason for change

The main reason for change is the decrease in absolute CO₂e emissions by 4.8% from 583,947 tons in 2018 to 555,882 tons in 2019, mainly driven by carbon reduction activities in our manufacturing facilities (such as on-site renewable projects, energy efficiency projects and increased green electricity sourcing) however the decrease of total number of employees to 73,500 have an impact in the calculation and created a very small increase in intensity. The intensity number is worked out from our 2019 CO₂e

emissions of 555,882 tons divided by 73,500 FTE employees. In 2018 we had 583,947 tons of CO₂e emissions and 77,400 FTE employees

Intensity figure

498.04

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

394,447

Metric denominator

Other, please specify

Combustible and smoke free-products shipment volume (in billion units)

Metric denominator: Unit total

792

Scope 2 figure used

Market-based

% change from previous year

9

Direction of change

Decreased

Reason for change

This covers Scope 1 and 2 emissions from our manufacturing facilities only. We decreased our CO₂ intensity from 543kg CO₂ per million cigarettes equivalent sold in 2018 to 498kg CO₂ per million cigarettes equivalent sold in 2019. This was driven by our Energy Management Program activities, and renewable energy projects and slightly declining production volumes. Moreover, our Drive 4 Zero program, which aims to eliminate economic losses caused by inefficient energy use. Under the program, we look for industrial and manufacturing solutions such as heat recovery and manufacturing-process optimization. We also promote behavioral change through our Zero Loss Mindset program.

To support our Drive 4 Zero program, an Energy Saving Initiatives (ESIs) program has been started in 2019, triggering more than 500 projects worldwide including among many others LED lighting, HVAC upgrade, chilled water optimization and heat recovery projects. The intensity number is worked out from our 2019 394,447 tCO₂e emissions (for manufacturing) divided by 792 billion cigarettes equivalent sold volume. In 2018 we had 442,419 tons of CO₂e emissions and 815 billion cigarettes equivalent sold. The reduction of 9.00% is mostly due to the Energy Saving Initiatives listed in section 4.3b.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO ₂ e)	GWP Reference
CO ₂	395,486	IPCC Fifth Assessment Report (AR5 – 100 year)
CH ₄	553	IPCC Fifth Assessment Report (AR5 – 100 year)
N ₂ O	1,171	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO ₂ e)
Albania	100.79
Algeria	290.95
Argentina	8,322.27
Armenia	145.45
Australia	769.41
Bangladesh	17.72
Bosnia & Herzegovina	106.12
Brazil	8,957.03
Bulgaria	313.13
Canada	3,542.34
Chile	53.53
China	99.35
China, Hong Kong Special Administrative Region	154
China, Macao Special Administrative Region	0.63

Colombia	3,794.41
Costa Rica	615.25
Croatia	353.56
Czechia	4,746.53
Denmark	119.51
Dominican Republic	993.59
Ecuador	875.33
Egypt	1,335.65
El Salvador	252.69
Finland	45.87
France	1,341.43
Georgia	180.36
Germany	21,793.49
Greece	7,917.34
Guatemala	230.65
Hungary	797.68
India	113.43
Indonesia	55,958.34
Italy	29,143.97
Jamaica	69.53
Japan	4,719.92
Jordan	528.17
Kazakhstan	3,860.36
Kuwait	70.18
Lebanon	89.62
Malaysia	12,413.45
Mexico	9,871.66
Morocco	319.71
Netherlands	33,478.77
Lithuania	2,085.71
New Zealand	224.68
Nicaragua	128.23
Norway	35.99
Pakistan	5,885.06
Panama	48.88

Paraguay	32.89
Peru	109.51
Philippines	33,201.35
Poland	15,538.5
Republic of Korea	9,388.91
Republic of Moldova	108.46
Réunion	96.82
Romania	11,123.84
Russian Federation	35,910.05
Senegal	935.15
Serbia	4,949.64
Singapore	438.56
Slovakia	467.43
Slovenia	107.22
South Africa	2,119.42
Spain	1,082.72
Sweden	246.97
Switzerland	4,819.39
Taiwan, Greater China	286.02
North Macedonia	100.3
Thailand	1,513.08
Tunisia	175.12
Turkey	26,401.11
Ukraine	7,040.63
United Arab Emirates	602.28
United Kingdom of Great Britain and Northern Ireland	419.44
Uruguay	21.63
Venezuela (Bolivarian Republic of)	108.19
Viet Nam	322.79
Other, please specify Rest of the world (where we do business)	5,555.72
Israel	937.86
Portugal	5,721.77
Nigeria	15.36

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Manufacturing	282,938.94
Offices and Warehouses	2,870.64
Vehicle Fleet	106,936.09
Private Aircraft	4,464.23

C-AC7.4/C-FB7.4/C-PF7.4

(C-AC7.4/C-FB7.4/C-PF7.4) Do you include emissions pertaining to your business activity(ies) in your direct operations as part of your global gross Scope 1 figure?

Yes

C-AC7.4b/C-FB7.4b/C-PF7.4b

(C-AC7.4b/C-FB7.4b/C-PF7.4b) Report the Scope 1 emissions pertaining to your business activity(ies) and explain any exclusions. If applicable, disaggregate your agricultural/forestry by GHG emissions category.

Activity

Processing/Manufacturing

Emissions (metric tons CO2e)

282,938.94

Methodology

Default emissions factor

Please explain

This category regroups all activities related to manufacturing
The emission factor used come from DEFRA2019 database

Activity

Distribution

Emissions (metric tons CO2e)

114,270.96

Methodology

Default emissions factor

Please explain

This category regroups all activities related to distribution (including offices)

The emission factor used come from DEFRA2019 database

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Argentina	11,096.39	4,368.44	31,604.65	19,162.48
Brazil	1,898.95	1,898.95	16,286.04	0
Canada	2,311.32	586.02	16,276.89	12,150
Colombia	442.26	65.66	3,300.48	2,810.48
Czechia	12,847.79	133.56	25,705.86	25,438.64
Dominican Republic	174.52	174.52	335.1	0
Ecuador	267.98	267.98	1,498.74	0
Germany	23,647.97	292.72	59,027.46	56,048.1
Greece	13,354.82	0	25,174.37	25,174.37
Indonesia	77,005.68	37,960.53	101,572.44	52,176.83
Italy	21,619.06	341.88	68,715.61	67,665.94
Jordan	2,285.21	2,285.21	4,589.7	0
Kazakhstan	6,725.74	6,725.74	10,995.16	0
Malaysia	7,892.64	7,892.64	12,142.52	0
Mexico	14,698.72	1,143.37	30,795.57	28,400.07
Pakistan	3,028.96	3,028.96	7,709.02	419.1
Philippines	45,039.24	832.36	70,303.65	69,059.08
Poland	47,429.08	2,796.21	73,285.28	62,916.37
Portugal	8,328.03	0	23,210.78	23,210.78
Romania	10,081.16	0	29,434.05	29,434.05
Russian Federation	27,690.2	27,690.2	80,661.26	0

Senegal	2,370.93	2,370.93	3,701.11	0
Serbia	15,933.29	118.56	20,327.44	20,176.79
South Africa	2,914.46	2,914.46	3,239.73	0
Republic of Korea	14,895.61	14,895.61	27,723.1	0
Switzerland	1,041.61	0	36,981.63	36,981.63
Turkey	12,640.73	1,199.28	27,619.63	25,019.28
Ukraine	9,460.32	9,460.32	26,176.88	0
Venezuela (Bolivarian Republic of)	436.65	436.65	1,518.25	0
Other, please specify Rest of the world (where we do business)	26,596.57	25,950.83	64,663.33	0
Lithuania	2,039.17	0	25,976.7	25,976.7
Netherlands	18,323.23	37.21	41,929.58	41,844.51
Australia	180.55	180.55	243.04	0
Egypt	70.29	70.29	159.11	0
France	14.2	14.2	205.86	0
Japan	382.63	386.63	732.58	0
Lebanon	111.48	111.48	144	0
Norway	0.24	0.24	28.35	0
Spain	89.36	89.36	309.95	0
Thailand	102.1	102.1	216.04	0
United Arab Emirates	1,772.68	1,772.68	2,693.22	0
United Kingdom of Great Britain and Northern Ireland	79.9	79.9	353.94	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Manufacturing	398,331	111,508
Offices and Warehouses	48,990	47,164

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	48,717	Decreased	8.34	The change in renewable energy consumption comes from the purchased renewable electricity in our manufacturing plant + the generation of renewable energy generated + the switch from cleaner fuel vehicles in our fleet (electric, natural gas and LPG). Our total Scope 1 and 2 emissions in the 2018 was 583,947 tCO2eq, therefore a 8.34% reduction $(48,717/583,947)*100 = 8.34\%$
Other emissions reduction activities	20,056	Decreased	3.43	The 20,056 tCO2eq reduction comes from the relentless drive of our energy saving and efficiency team implementing processes through our Drive for Zero program. Compared to our scope 1 and 2 in 2019, this represents a 3.43% taking in consideration the increased energy demand from our Smoke-Free-Products (the process to manufacture heated tobacco units is more energy intensive than for conventional cigarettes, due to the production of the cast leaf tobacco in

				the magnitude of three times more energy than conventional products).
Divestment	0	No change	0	PMI did not have any changes due to change in divestment in 2019.
Acquisitions	0	No change	0	PMI did not have any changes due to change in acquisitions in 2019.
Mergers	0	No change	0	PMI did not have any changes due to change in mergers in 2019.
Change in output	40,708	Increased	6.97	The main drivers for this increase was the ramp up in the production of smoke free products - (the process to manufacture heated tobacco units is more energy intensive than for conventional cigarettes, due to the production of the cast leaf tobacco (magnitude of three times more energy than conventional products)-, slightly outset by a decrease in production of our conventional products in volume, and number of kilometers driven by our vehicle fleet in 2019. In 2019, 40,708 tCO2e increased in our scope 1 and 2 , compare to a total of 583,947, therefore a $40708/583947*100 = 6.97\%$ increase.
Change in methodology	0	No change	0	PMI did not have any changes due to change in methodology in 2019.
Change in boundary	0	No change	0	PMI did not have any changes due to change in boundary in 2019.
Change in physical operating conditions	0	No change	0	PMI did not have any changes due to change in physical operating in 2019.
Unidentified	0	No change	0	PMI did not have any changes due to change in unidentified in 2019.
Other	0	No change	0	PMI did not have any changes due to change in other in 2019.

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	35,824.24	1,616,408.97	1,652,233.21
Consumption of purchased or acquired electricity		616,336.31	338,757.3	955,093.61

Consumption of purchased or acquired heat		0	14,745.61	14,745.61
Consumption of self-generated non-fuel renewable energy		7,728.88		7,728.88
Total energy consumption		659,889.43	1,969,911.88	2,629,801.31

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Jet Kerosene

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

17,145.97

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

2.54

Unit

kg CO2e per liter

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Biogasoline

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4,660.08

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.00855

Unit

kg CO2e per liter

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Brown Coal Briquettes (BKB)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

89.3605

Unit

kg CO₂e per GJ

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

We reported a 0 figure to illustrate the fact that no more brown coal is being used within PMI scope 1 as of 31/12/2018

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

210,365.35

MWh fuel consumed for self-generation of electricity

40,003.81

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

2.68697

Unit

kg CO2e per liter

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Fuel Oil Number 4

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

42,603.64

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

42,603.64

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

79.1435

Unit

kg CO2e per GJ

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Petrol

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

232,511.9

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

2.31495

Unit

kg CO₂e per liter

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1,084,235.68

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

216,847.14

MWh fuel consumed for self-generation of steam

661,383.76

MWh fuel consumed for self-cogeneration or self-trigeneration

206,004.78

Emission factor

56.9222

Unit

kg CO₂e per GJ

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Coal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

3,040.13

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

3,040.13

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

97.0262

Unit

kg CO₂e per GJ

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

16,186.28

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

63.97

Unit

kg CO₂e per GJ

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Fuels (excluding feedstocks)

Wood Chips

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

31,164.16

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

31,164.16

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

0.01563

Unit

kg CO2e per kWh

Emissions factor source

Emission factor provided by UK Government (DEFRA)

Comment

Wood chip consumption increased between 2018 and 2019 (2.5 times) due to the implementation of 5 biomass boilers.

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	130,484.45	130,484.45	7,604.06	7,604.06
Heat	184,426.16	184,426.16	106.1	106.1
Steam	644,737.47	644,737.47	26,489.54	26,489.54
Cooling	528,745.31	528,745.31	378,160.73	378,160.73

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Czechia

MWh consumed accounted for at a zero emission factor

16,269

Comment

Certificate number: 121342184

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Biomass

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Czechia

MWh consumed accounted for at a zero emission factor

8,731

Comment

Certificate number: 121342184

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Lithuania

MWh consumed accounted for at a zero emission factor

25,980

Comment

Certificate number

FROM:

6430024065559 0271000000041 6054

To

6430024065559 0271000000044 2033

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Germany

MWh consumed accounted for at a zero emission factor

49,068

Comment

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Germany

MWh consumed accounted for at a zero emission factor

7,606

Comment

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Wind

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Greece

MWh consumed accounted for at a zero emission factor

25,206

Comment

No certificate number provided – cancellation request: 17613 from GO Registration Database of DAPEEP

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Wind

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Poland

MWh consumed accounted for at a zero emission factor

53,233

Comment

Certificate number: 2019121342199

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Portugal

MWh consumed accounted for at a zero emission factor

23,638.35

Comment

Acciona Energia

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Wind

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Romania

MWh consumed accounted for at a zero emission factor

27,396

Comment

Certificate number: 2019121342204

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Serbia

MWh consumed accounted for at a zero emission factor

20,015

Comment

Certificate number: 2019121342200

Sourcing method

Unbundled energy attribute certificates, International REC Standard (I-RECs)

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Indonesia

MWh consumed accounted for at a zero emission factor

50,807

Comment

2 certificates were issued for a total of 50807 -RECs:
- Certificate number: 2020013142304 (32,720 MWh)
- Certificate number: 2020013142305 (18,087 MWh)

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Netherlands

MWh consumed accounted for at a zero emission factor

45,066

Comment

CertiQ accounts 8712423009714 & 8712423009103

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Wind

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Italy

MWh consumed accounted for at a zero emission factor

51,072

Comment

Breakdown:

Q1:

14995 - Certificato di annullamento numero: CA0E45B306000BEE0530AA000BD00BE

Q2:

13442 - Certificato di annullamento numero: 90762361844B00E6E0530AA0009100E6

Q3:

15996 - Certificato di annullamento numero: 968364C3E2050072E0530AA000910072

Q4:

6639 - Certificato di annullamento numero: 9D5FF5EF663B0006E0530AA000910006

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Solar

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Italy

MWh consumed accounted for at a zero emission factor

14,045

Comment

Breakdown:

Q2:

3713 - Certificato di annullamento numero: 90762361844B00E6E0530AA0009100E6

Q3:

2785 - Certificato di annullamento numero: 968364C3E2050072E0530AA000910072

Q4:

7567 - Certificato di annullamento numero: 9D5FF5EF663B0006E0530AA000910006

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Marine

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Italy

MWh consumed accounted for at a zero emission factor

1,101

Comment

Bought in Q4:

Certificato di annullamento numero: 9D5FF5EF663B0006E0530AA000910006

Sourcing method

Unbundled energy attribute certificates, International REC Standard (I-RECs)

Low-carbon technology type

Wind

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Turkey

MWh consumed accounted for at a zero emission factor

8,451

Comment

Breakdown:

H1: 3971: From Certificate ID: 0000-0000- 2754-1368 - To Certificate ID: 0000-0000-3603-5234

H2: 4480: From Certificate ID: 0000-0000- 2754-5338 - To Certificate ID: 0000-0000-3603-5234

Sourcing method

Unbundled energy attribute certificates, International REC Standard (I-RECs)

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Turkey

MWh consumed accounted for at a zero emission factor

16,364

Comment

Breakdown:

H1: 9,854 - From Certificate ID: 0000-0000- 2790-0738 - To Certificate ID: 0000-0000-2791-0591

H2: 6,510 – From Certificate ID: 0000-0000-3632-1457 - To Certificate ID: 0000-0000-3632-7966

Sourcing method

Unbundled energy attribute certificates, International REC Standard (I-RECs)

Low-carbon technology type

Wind

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Argentina

MWh consumed accounted for at a zero emission factor

19,200

Comment

Breakdown:

- 12681: From Certificate ID: 0000-0000-3839-4118 - To Certificate ID: 0000-0000-3840-6798

- 6494: From Certificate ID: 0000-0000-3840-6799 - To Certificate ID: 0000-0000-3841-3292

- 25: From Certificate ID: 0000-0000-3607-2676 - To Certificate ID: 0000-0000-3607-2700

Note that i-RECs are not available in Argentina. The above certificate have been redeemed from Brazilian registry.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Canada

MWh consumed accounted for at a zero emission factor

12,150

Comment

Electricity provided by Hydro-Quebec the electricity provider for RBH (PMI Canada). Hydro Quebec is the sole and only available supplier for electricity in the province of Quebec. In their validated report Hydro Quebec states, on page 46, that 99.8% of their energy is clean and renewable. Their sustainability report is evaluated by an independent third party, see pages 93 & 94. For all these years we were asking Hydro-Quebec to get a certificate for green energy unfortunately this is not a service they are offering/providing, they are claiming that the sustainability report is their proof of compliance as it is validated by an independent third party.

Sourcing method

Unbundled energy attribute certificates, International REC Standard (I-RECs)

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Colombia

MWh consumed accounted for at a zero emission factor

3,822

Comment

Breakdown:

- 2987: Número inicial de Identificación de Certificados: 0000-0000-2210-2098 - Número final de Identificación de Certificados: 0000-0000-2210-5084
- 835: Número inicial de Identificación de Certificados: 0000-0000-3932-4225 - Número final de Identificación de Certificados: 0000-0000-3932-5059

Sourcing method

Unbundled energy attribute certificates, International REC Standard (I-RECs)

Low-carbon technology type

Solar

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Mexico

MWh consumed accounted for at a zero emission factor

28,401

Comment

Breakdown:

- 5887: Range Start 0000-0000-1992-4883 - Range End 0000-0000-1993-0769
- 7138: Range Start 0000-0000-1993-1765 - Range End 0000-0000-1993-3031 & Range Start 0000-0000-2702-5673 - Range End 0000-0000-2708-1543
- 7668: Range Start 0000-0000-3360-4252 - Range End 0000-0000-3361-1919
- 7708: Range Start 0000-0000- 3361-322 - Range End 0000-0000-3362-0932

Sourcing method

Unbundled energy attribute certificates, International REC Standard (I-RECs)

Low-carbon technology type

Hydropower

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Philippines

MWh consumed accounted for at a zero emission factor

64,202

Comment

Breakdown:

59,037

Range Start 0000-0000-3514-1401 Range End 0000-0000-3515-8607

Range Start 0000-0000-2711-0974 Range End 0000-0000-2711-3031

Range Start 0000-0000-3517-7608 Range End 0000-0000-3521-1946

Range Start 0000-0000-2940-9168 Range End 0000-0000-2940-9435

5165

Range Start 0000-0000-3521-5947 Range End 0000-0000-3522-0946

Range Start 0000-0000-2940-9466 Range End 0000-0000-2940-9630

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/region of consumption of low-carbon electricity, heat, steam or cooling

Switzerland

MWh consumed accounted for at a zero emission factor

36,677

Comment

Breakdown:

Purchased Renewable Energy Manufacturing: 12,505MWh

Purchased Renewable Energy Offices: 24,172 MWh

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Waste

Metric value

4

Metric numerator

Waste landfilled or incineration w/o heat recovery

Metric denominator (intensity metric only)

Total waste generated

% change from previous year

1

Direction of change

Decreased

Please explain

The start-up of our new RRP facilities in Italy, impacted our disposal ratio in 2017. Since 2018 we solved this issue and we are back on track, including in 2019, to maintain our long-term target to reduce and keep our disposal to landfill ratio below 5%.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 PMI GHG Verification Statement 2019 external .pdf

Page/ section reference

Page 3: total Scope 1
Page 2 and 3: method and scope

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 PMI GHG Verification Statement 2019 external .pdf

Page/ section reference

Page 3: total Scope 2 market-based.
Page 2 and 3: method and scope

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 PMI GHG Verification Statement 2019 external .pdf

Page/ section reference

Page 3: total Scope 2 location-based.

Page 2 and 3: method and scope

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3 (upstream & downstream)

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

 PMI Scope 3 GHG Verification Statement 2019.pdf

Page/section reference

Page 1: total Scope 3
Page 2 and 3: method and scope.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C6. Emissions data	Year on year change in emissions (Scope 1 and 2)	ISO14064-3	PMI has chosen to verify this data in order to certify our year on year progress on carbon emission reductions in all our operations (factories, offices, warehouses and fleet).
C6. Emissions data	Year on year change in emissions (Scope 3)	ISO14064-3	PMI has chosen to verify this data from our carbon footprint model in order to certify our year on year progress on carbon emission reductions in all our operations (factories, offices, warehouses and fleet) and supply chain.

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS
Switzerland ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

EU ETS

% of Scope 1 emissions covered by the ETS

10.84

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2019

Period end date

December 31, 2019

Allowances allocated

31,684

Allowances purchased

20,000

Verified Scope 1 emissions in metric tons CO₂e

43,065

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

The “% scope 1 emissions covered”, covers emissions from our manufacturing sites in Italy and Netherlands. Due to the energy efficiency programs implemented in the last few years, the manufacturing site in Italy used the allowances allocated and did not require the purchase of additional allowances.

For our site in the Netherlands, due to a backlog from the EU, the 2019 (free) allocated allowances have not yet been received by PMI. This was already the case for 2017 and 2018 allowances and should be delivered in 2020. Therefore, PMI complied to the EU ETS regulations by purchasing all the allowances for our site in Netherlands (20,000 units). This is why allowances allocated + allowances purchased is not equal to the verified scope 1 emissions.

Additional information:

1. PMI other European manufacturing sites, in 2019:
Czech Republic, Greece, and Poland were below combustion capacity threshold to be included in the scheme. Lithuania, Germany and Portugal sites have been delisted from the EU ETS scheme due to the energy reduction programs conducted.
2. Scope 2 not included, only scope 1.
3. We forecast an increase for 2020 with the inclusion of Romania manufacturing site in the scheme due to the increased combustion capacity installed.

Switzerland ETS

% of Scope 1 emissions covered by the ETS

1.39

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2019

Period end date

December 31, 2019

Allowances allocated

6,129

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

5,529

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

The allowances allocated during phase 2 of the Swiss ETS (2013-2020) was provided by the "convention d'objectifs" for our Neuchatel site (manufacturing and the various offices). The emissions have constantly been below the threshold; therefore we are in benefits compare to the scheme and have capitalized the credits in prevision of Swiss ETS third phase starting in 2020 and ending in 2030.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

European Union Allowances (EUA)'s prices have shown in 2019 a strong up-moving trend. The main reason behind this uptrend is an expectation of an unbalanced market on the demand side mainly due to the activity of the EU ETS system to reduce the oversupply number of credits in the market and thus low prices in the past and a high demand of credits on the voluntary market. In order to mitigate this impact reducing energy consumption thorough increasing energy efficiency in our factories is a priority. At PMI, we started in 2012 our Global Energy Management Program paired with local reduction initiatives, targeting energy and CO2 savings to minimize the need for purchasing EUAs. This program represents PMI's main component of its strategy to comply with the relevant ETS. We balance our allowances purchased over a 3-year timeframe. As a result of the efforts, energy reductions have enabled our factories in Portugal, Germany and Lithuania to be removed from the EU ETS scheme in the last 4 years (moving below total combustion capacity thresholds). In addition, in 2019 our manufacturing site in Italy only uses the free allowances to comply, therefore did not have to purchase additional credits. Regarding emerging regulations, we are monitoring closely and anticipating the strategic position of our manufacturing plant vs. the potential impact of such cap and trade mechanism or carbon tax. For example, with Korea ETS , it is our understanding that a company will be included in the scheme if the average CO2 emission of the last three years is over 125,000 tons/yr. South Korea is a strategic market where we launch our smoke-free products and we may increase production capacity in the future. Considering that currently our activities resume to an average 25,000tons/yr CO2 emissions, we could increase the capacity without immediate threats from such carbon tax. Moreover, in South Korea through the implementation of our global program "Drive for Zero", we aim to improve efficiency in our manufacturing facilities and eliminate losses, reducing emissions intensity to further mitigate the impact of emerging regulations.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

myclimate awarded the PMI factory in Klaipeda, Lithuania, with the claim "climate-neutral factory 2019". The climate-neutrality encompasses all scope 1 and scope 2

emissions of the factory. The corresponding GHG emissions have been validated and all remaining emissions (i.e. 201 metric tons CO₂e) have been offset with high-quality carbon offset certificates from myclimate.

Carbon offset project
- Project: Biogas Plants for 9,000 Families
- Project type: Biogas
- Project location: India
- Project standard: Gold Standard CER
- myclimate project number: 7149
- Tracking ID: 01-19-980413

No Corrective Action Requests (CAR) has occurred in the validation process. There has been one Clarification Request (CR1), concerning the certificates for green electricity, which was resolved during the validation process.

For its entity in Lausanne (PMI Operations Center) PMI has made a sustainable contribution to voluntary climate protection by offsetting 1,041 metric tons CO₂e (confirmation number 129300) in high quality myclimate carbon offset projects.

Verified to which standard

Gold Standard

Number of credits (metric tonnes CO₂e)

1,242

Number of credits (metric tonnes CO₂e): Risk adjusted volume

1,242

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Drive low-carbon investment
Identify and seize low-carbon opportunities

GHG Scope

- Scope 1
- Scope 2

Application

Over the past years, PMI developed a Marginal Abatement Cost Curve (MACC) tool mostly applied as an internal carbon price of \$17 per ton of CO₂e in order to allocate capital for the best return in terms of carbon reduction and cost-effectiveness. As we are stepping up our ambition to reduce carbon emissions, we started an internal project to define a shadow carbon price that will drive our reduction based on our Science Based Target aligned with the 1.5-degree scenario, and allow us to reduce carbon emissions, mitigate climate-related business risks, identify opportunities to accelerate the achievement of our carbon-neutrality targets and help to solidify the company's climate leadership.

Based on a comprehensive review of policies and methodologies applied by organizations across a variety of industries, we recognize the importance of defining a carbon price that will remain consistent over time and ensures that climate transition risks are embedded in capital expenditure decisions.

Actual price(s) used (Currency /metric ton)

17

Variance of price(s) used

Based on a comprehensive review of policies and methodologies applied by organizations across a variety of industries, we recognize the importance of defining a carbon price that will remain consistent over time and ensures that climate transition risks are embedded in internal decision to invest in carbon reduction initiatives. We plan to set a shadow price to drive internal expenditure decisions that will enable us to include a prices per ton of CO₂ reduced (and/or generated) when evaluating alternative options, for instance for capital expenditure decisions. We plan to finalize our approach during 2020 and report next year on its implementation ranging within the Stiglitz and Stern price corridor (\$40-\$80).

Once implemented, the objective is to remain a constant price in time which will be reviewed annually based on international guidelines and CPLC (Carbon Pricing Leadership Coalition) best practices.

Type of internal carbon price

Shadow price

Impact & implication

As an example of carbon price usage, in 2019 through our Drive 4 Zero and Energy Saving Initiatives and central budget for renewables, we implemented biomass boilers in Brazil and Mexico for example and a 6MW photovoltaic solar system in Italy; furthermore we approved the installation of a pyrolysis project thanks to the support of the shadow price.

The shadow price made PMI to internalize the costs of externalities in the projects financial evaluation, allowed to improve the financial parameters of those projects and

served as enabler of the carbon neutrality strategy favoring investments that will organically accelerate the reduction path and support the achievement of our neutrality targets. Our current challenge is how to better select and prioritize projects based on their reduced impact on the environment, while having long ROI. From our Marginal Abatement Cost Curve tool, we included in the financial calculations a \$17 internal carbon price and estimated ROI with this internal carbon price factored in. We are evolving from this practice, and from 2020 we will adopt the new internal carbon shadow price mechanism which has been developed, to assess and prioritize investments across our manufacturing sites with the objective to drive the implementation of technologies that can support CO2 emissions contraction including further adoption of renewables. We apply a financial threshold of \$100k as a criterion for the project selection, combined with our in-house expertise.

Embedding an internal carbon price in the financial decision, supports raising awareness to invest in environmentally friendly and low carbon technologies.

Objective for implementing an internal carbon price

- Change internal behavior
- Drive low-carbon investment
- Identify and seize low-carbon opportunities
- Supplier engagement

GHG Scope

- Scope 1
- Scope 2
- Scope 3

Application

Carbon Levy is recognized as one of the main instruments used by corporates to account for the cost of the negative externalities of carbon emissions in business and internal expenditure decisions.

A carbon levy will enable us to internalize external costs by charging our business functions or affiliates for their respective emissions. With the aim of supporting behavioral change, the levy would be collected in a climate fund, which will finance high-quality carbon insetting and/or offsetting projects.

The Carbon Levy mechanism has been approved by Company Management in the course of 2020, our approach will be finalized during 2020 and implemented as of 2021. Progress on its implementation will be reported next year to provide a more actual status and the benefits of its application.

Actual price(s) used (Currency /metric ton)

8

Variance of price(s) used

We do not forecast to apply a variance in price. A fix price will be implemented throughout our business overtime, on direct and indirect emission beginning with selected business units (i.e. Scope 1 and 2 emissions and emissions from business travel). The price will be recalibrated every year to reflect PMI emission profile and reduction forecast in 2030.

Type of internal carbon price

Internal fee

Impact & implication

The impact and implication that we expect by the adoption of the PMI's on carbon levy and its mechanism to charge business units based on their emissions, is the generation of a climate fund that is reinvested into projects focused on energy efficiency, renewable energy, carbon offsets or carbon insets.

The Carbon levy approach is considered as a tool to design, manage and govern a strategic and long-term view to define the most cost-effective and efficient solutions to compensate the remaining unavoidable emissions (e.g.: the ones remaining after the implementation of initiatives to abate our direct emissions in manufacturing sites that will become carbon neutral) and achieve the carbon neutrality targets.

We have modeled what the carbon levy should be for PMI based on forecast of the voluntary carbon market dynamics, our CO2 compensation profile and the climate fund's strategy we want to adopt.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

91

% total procurement spend (direct and indirect)

47

% of supplier-related Scope 3 emissions as reported in C6.5

86

Rationale for the coverage of your engagement

Suppliers' engagement covers all tobacco supply chain including 335,000 tobacco farmers and leaf suppliers, direct material suppliers (around 40% of total spend with material suppliers), and the majority of our main electronics and logistics services providers. We have used our carbon footprint model to identify the main contributors in terms of emissions within our purchased material categories. For direct materials (non-tobacco), we have identified acetate tow and consumer board and paper as significant contributors to our carbon footprint and we have therefore prioritized engagement with them. Since 2014 we have engaged with our suppliers through direct discussions and through CDP Supply Chain program, focusing, among others, on information collection. We have invited suppliers of tobacco, paper/board, acetate tow, distribution/logistics, electronics and some others to share primary data with us to improve the accuracy of our carbon footprint model in 2019 and beyond. In the medium to long term, we will use this forum to drive improvements towards our carbon neutrality commitments across our value chain (scope 1+2+3) by 2050.

Main engagement areas:

- Tobacco leaf suppliers – through Good Agricultural Practices (GAP) program which includes mandatory requirements for managing energy and climate change (mitigation and adaptation), and reporting against the indicators defined in GAP.
- All other non-leaf suppliers – in 2017, we released our Responsible Sourcing Principles (RSP) and Implementation Guidelines, that are applicable to all suppliers doing business with PMI and which encourages our suppliers to minimize their energy use and GHG emissions.

We aim to influence their behavior through procurement and product development activities. One of the outcomes of the information collection, beyond understanding our supplier's behavior and measurable progress, is the definition of parameters of environmental performance for different raw material components to allow to improve our engagement and reporting in the future.

Impact of engagement, including measures of success

Our measure of success is to achieve at least 80% response rate in CDP supply chain program. In 2019 the outcome of this engagement was 100% response rate, allowing PMI to be listed in CDP Supplier Engagement Leaderboard. The information received from CDP supply chain program was used to fine tune our carbon footprint model in 2019. We engaged suppliers to collect primary data, CO2 emissions reduction strategy, and projects' glidepath pertaining to our direct materials, with 27% increase of suppliers engaged (vs. previous year in number of suppliers). The CO2 emission reductions in our direct materials supply chain contributed to 12% of our 2019 reduction across our value chain. PMI recently established new and more ambitious carbon neutrality targets. To support the achievement of these targets, we will further expand this supplier

engagement to other supply chain material categories.

Our tobacco suppliers are contractually required to implement our Good Agricultural Practices (GAP) program. To assess suppliers' conformity against GAP, the Sustainable Tobacco Program (STP) is used, incl. an annual supplier's self-assessment and on-site reviews performed by AB Sustain, an independent company. Suppliers report on metrics and performance related to water and GHG emissions reductions, among other environmental indicators. Access to this data allows for internal benchmark, as well as selection and deployment of strategic initiatives in collaboration with suppliers. We expect our suppliers to demonstrate yearly continuous improvements, which are reflected in suppliers' scorecards, together with STP assessments results, and used to make future decisions such as tobacco purchase volume allocation through our supplier base. GAP is also the foundation to increase resilience of tobacco crops to climate change. We have a measure of success to reduce the GHG emission intensity related to tobacco curing by 70% by 2020 (vs. 2010 baseline). We are on track with a 61% reduction achieved in 9 years (2010-2019). A monitoring and verification framework was launched in 2016 across our leaf supply chain to monitor and verify the impact of the more than 40 initiatives being implemented. These initiatives support the achievement of our target by eliminating the use of coal and non-sustainable firewood, promoting the use of alternative wood fuels and improving curing efficiency.

Comment

Type of engagement

Compliance & onboarding

Details of engagement

Included climate change in supplier selection / management mechanism

% of suppliers by number

92

% total procurement spend (direct and indirect)

80

% of supplier-related Scope 3 emissions as reported in C6.5

86

Rationale for the coverage of your engagement

PMI's approach to sustainable supply chain includes a range of compliance programs that are expected to be fully met by our suppliers, allowing us to engage with them at different levels and stages of the value chain.

Our Responsible Sourcing Principles (RSP) and Implementation Guidelines establish the foundation for a more comprehensive and systematic approach to addressing supply chain sustainability beyond our agricultural supply chain. The RSP is available in 26 languages and covers environmental, social, and governance topics, encouraging suppliers to review, identify and minimize their environmental impacts, especially

regarding land use, waste, emissions, energy and water consumption. The RSP applies to all suppliers and service providers, including our tobacco suppliers. The prioritization for direct engagement is based on spend and suppliers having the biggest potential environmental impacts through their business activities; e.g., engaging with them to decrease their emission will have a major impact on our indirect emissions reduction. In our direct materials (non-tobacco) supply chain we identified acetate tow and board and paper as significant contributors to our carbon footprint, and we prioritized engagement with them. Through our Good Agricultural Practices (GAP) program specific requirements are implemented in our agricultural supply chain, fostering collaboration not only to address climate change related risks, but also in other areas that may have a positive impact on our business and create value to society. This is an opportunity for PMI to build a stronger and more resilient value chain and to position the company as a leading company in sustainability by collaborating with its leaf suppliers to implement actions for a more sustainable future.

To monitor the adherence of our suppliers to the RSP and GAP requirements, we have set up several processes and systems. In 2019 we implemented STEP (Sustainable Transformation Enables Performance), the supplier due diligence and performance program to achieve supplier compliance with our RSP. It serves as the backbone for sustainably managing our first-tier suppliers; in some cases, second-tier suppliers are also included. In addition to STEP, we engage with suppliers on more specific sustainability issues, train and empower suppliers, and conduct assessments and audits through third parties.

Impact of engagement, including measures of success

In 2019 we pursued the RSP trainings and workshops started in 2018 for PMI procurement teams as part of the capacity-building process, as well as with suppliers. Furthermore we increased understanding and transparency of the practices adopted by our tier 1 electronics suppliers, covering 100% of them (i.e. 100% coverage of tier 1 electronics suppliers was our measure of success), through audits and development of corrective action plans of our EMS (Electronics Manufacturing Services) suppliers; and, we completed the risk mapping of 16 tier 2 electronics suppliers through on-site visits covering environmental risks.

The foundation work behind our STEP due diligence platform, launched in 2019, was based on an extensive communication of our RSP to suppliers. Existing and new suppliers will be regularly assessed. Depending on their risk profile and the outcome of the STEP assessment, PMI will engage with suppliers through corrective action plans and regular performance monitoring. In 2019, we focused STEP deployment on critical suppliers identified by our risk-based criteria. We started to formally onboard suppliers in July. This first wave focused mainly on suppliers of direct materials and electronics. We reached 84% of critical suppliers spend coverage (spend above \$500 thousand, and/or single source, and/or critical material).

Within our tobacco supply chain with the implementation of GAP and strategic initiatives to reduce carbon footprint, PMI aims to further reduce its carbon footprint by focusing on most emitting processes, such as curing, where upgrading tobacco barns to increase curing efficiency and replacing fossil fuels with biomass as curing fuel sources has led to significant emission reductions in the past years (61% reduction vs. 2010 baseline).

Through such strategic initiatives the engagements with our suppliers remains a priority and a key contributor to reach PMI's more ambitious targets in our decarbonization journey with further reductions in absolute CO2 emissions to be set consistent with science-based targets for a 1.5-degree scenario, which shall be revised and submitted to SBTs in 2020.

Comment

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Other, please specify

Collaborating with leaf suppliers to reduce climate impacts from agricultural supply chain

% of suppliers by number

91

% total procurement spend (direct and indirect)

13

% of supplier-related Scope 3 emissions as reported in C6.5

30

Rationale for the coverage of your engagement

PMI's suppliers' engagement through the collaboration with leaf suppliers to reduce climate impacts from agricultural supply chain covers all tobacco supply chain including 335,000 tobacco farmers and leaf suppliers. We have used our carbon footprint model to identify the main contributing processes in terms of GHG emissions within our tobacco supply chain, which inform company's decision towards internal investment and focus areas for joint project development and implementation with our leaf suppliers. Through PMI's Good Agricultural Practices (GAP) program, a set of mandatory requirements are implemented by all leaf suppliers, encompassing several action areas (from environmental practices to human rights). Furthermore, GAP sets out best practices, for example, towards more resource efficient technologies (e.g. improved tobacco curing practices) and innovative solutions (e.g. irrigation methods). One of the outcomes of the strong collaboration with our leaf suppliers is the significant reduction in GHG emissions from the tobacco curing process in recent years.

Impact of engagement, including measures of success

Our measure of success is the continuous CO2 emission reductions within our leaf supply chain, which drive a positive trend in decreasing our Scope 3 indirect emission. This is the successful result and direct impact of the collaboration with our suppliers worldwide in different action areas, from tobacco curing to fertilizer application and mechanized activities.

To assess suppliers' conformity against GAP, the Sustainable Tobacco Program (STP) is used, including an annual supplier's self-assessment and on-site reviews performed by AB Sustain, an independent company. Suppliers report on metrics and performance related to water and GHG emissions reductions, among other environmental indicators. Access to this data allows for internal benchmark, as well as selection and deployment of strategic initiatives in collaboration with suppliers. We expect our suppliers to demonstrate yearly continuous improvements, which are reflected in the suppliers' scorecards, together with the STP assessments results, and used to make future decisions such as tobacco purchase volume allocation through our supplier base. GAP is also the foundation to increase resilience of tobacco crops to climate change. We have a measure of success to reduce the GHG emission intensity related to tobacco curing by 70% by 2020 (vs. 2010 baseline). We are on track with a 61% reduction achieved in 9 years (2010-2019). A monitoring and verification framework was launched in 2016 across our leaf supply chain to monitor and verify the impact of the more than 40 initiatives being implemented. These initiatives support the achievement of our target by eliminating the use of coal and non-sustainable firewood, promoting the use of alternative wood fuels and improving curing efficiency.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

4

Please explain the rationale for selecting this group of customers and scope of engagement

PMI engages 100% of its customers on climate-related issues as it recognizes that increased climate action expectations and shifting consumer preferences are important issues for the company. Failing to develop an effective GHG emission reduction strategy that addresses impacts from direct operations and supply chains, as well as developing products that are environmentally friendly can have significant impacts on PMI's

operations. Additionally, our customers' insights on our climate targets, performance and products can help us understanding our market potential and further opportunities better. For these reasons, PMI engages 100% of its customers through several direct and indirect initiatives, which include raising awareness on environmental issues through education campaigns, as well as sourcing agricultural commodities and developing innovative products that are environmentally friendly.

Our strategic business transformation towards a smoke-free future, replacing cigarettes with Reduced-Risk Products (RRPs), initiated fundamental changes in our operating model, organizational structure and culture and accelerated our evolution to a consumer-centric, technology and science-driven company. Beyond offering smokers a less harmful alternative to cigarettes, we also aim to reduce our products' environmental footprint by integrating circularity considerations at the design stage and strengthening our programs for collection and recovery of used devices and consumables. LCA is integrated in our R&D processes, resulting in the development of LCAs for RRP to assess the potential impacts these new products may have on our carbon footprint. The increasing relevance of RRP within our product portfolio, will enhance focus on these product's eco-design and their potential environmental impacts, with additional steps to our product development process to mitigate those impacts. As part of our business transformation we strive to continuously share our efforts on sustainability and climate-change related issues, engaging with all our stakeholders, including customers, by means of our annual Integrated Report, communication campaigns and our CDP disclosures, demonstrating our achievements related, for instance, to our Science Based emission reduction Targets. A specific sustainability branding campaign regarding our RRP has been developed and will be launched in 2020.

Impact of engagement, including measures of success

PMI measures success of its engagement activities in multiple ways. When it comes to educating our customers on the climate related impacts from PMI's products, the company relies on the usage of online platforms and other materials as the main method of engagement. In this context, our measure of success is based on two components: 1) PMI's ability to provide clear and transparent information regarding the direct and indirect climate impacts from its global operations; 2) having an increasing share of customers accessing climate-related resources and/or participating in related surveys. In 2019, we released our first Integrated Report, which explains PMI's dependency on the environment, as well as how the company creates social, environmental and economic value. By transparently disclosing our direct and indirect climate impacts, explaining how we integrate Life Cycle Analysis (LCA) in the development of our products as well as our climate ambitions and progress, we provide our customers with a clear understanding of the impacts from our products and our strategy to reduce them. To better understand how customers' access to these resources' changes over time, PMI monitors visits to its sustainability pages at pmi.com. In the period of 1 month following the publication of our Integrated Report 2019, our sustainability landing page had an increase of 179% visits, compared to the same period (1 month) after the publication of our Sustainability Report 2018. Another example of PMI's engagement in 2019 is the use of surveys. Following a successful market research study in Italy where 2,548 users were engaged on how

environmental factors could influence their purchasing decisions, PMI carried out a broader study with over 4,700 users in our key RRP markets in Italy, Germany, Russia and Japan. Results from these surveys provided PMI with valuable insights on our customers preferences, with over 60% of them indicating willingness to pay for a premium price related to environmental protection; results also indicated that our customers are interested in repairable devices, carbon neutral manufacturing and effective waste management, all which are factored in our R&D department and new products. This feedback enabled PMI to quantify potential market benefits from these products and integrate them in the design of our RRP roadmap and branding campaign.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

In our value chain we engage with our employees and local automobile associations through a two-folded strategy that focuses on training initiatives and continuously renewing our fleet to more eco-friendly vehicles. As a result of our engagement with local automobile associations in some countries where we operate, eco-driving trainings are regularly conducted to promote more environmental-friendly practices by our drivers, resulting for example in fuel savings, and consequently reduction in carbon emissions, and in minimizing noise and air pollutions at local level. In Germany, yearly eco-driving trainings are organized in cooperation with local automobile associations and other partners to support our sustainability and climate-change related efforts in fleet. Furthermore, every year most PMI affiliates perform voluntary awareness and promotion campaigns programs in order to increase employees' active participation in environmental programs and to make carbon footprint reduction part of the company's culture. Awards and recognition of our employees for best practices are a core element of such campaigns. Examples of these awarded campaigns include CO2 emission reduction tips as part of the annual eco-week in Turkey including a race with zero CO2 emission slot cars and the sales fleet replacement in Spain from diesel to hybrid cars with the direct participation of the employees in the selection of the models (all drivers voted). PMI has a fleet of around 24,000 vehicles used for delivery, sales, and other services, out of which approximately 700 are "green" vehicles, either electric, hybrid or emitting less than 80 g/km of CO2 for cars or vans and less than 600 g/km of CO2 for trucks. Our fleet emissions account for about 27% of our direct (scope 1) GHG emissions. In 2019, we decreased the absolute CO2e emissions from our fleet by 4% versus 2018. This reduction is a combination of good vehicle maintenance, ongoing switch to hybrid and more fuel-efficient vehicles, and eco-driving behavior in our fleet.

C-AC12.2/C-FB12.2/C-PF12.2

(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?

Yes

C-AC12.2a/C-FB12.2a/C-PF12.2a

(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.

Management practice reference number

MP1

Management practice

Other, please specify
Responsible Sourcing Principles

Description of management practice

In 2017, we launched our Responsible Sourcing Principles (RSP) and Implementation Guidelines, which established the foundation for a more comprehensive and systematic approach to addressing supply chain sustainability beyond our agricultural supply chain. The RSP provides our suppliers with PMI's expectations in the areas of human rights, environment, and business integrity. The environment section covers environmental compliance and management, and resource consumption and waste minimization. In the area of climate change, our RSP encourages suppliers to review, identify and minimize their environmental impacts, especially regarding land use, waste, emissions, energy and water consumption. Our RSP also encourages supplier set targets for improvement, measure performance and report on them.

Your role in the implementation

Operational

Explanation of how you encourage implementation

The RSP applies to all suppliers doing business with PMI but tobacco farmers. In addition tobacco suppliers and their farmers follow our Good Agricultural Practices (GAP) program and Agricultural Labor Practices (ALP) Code. In 2017 we rolled out RSP to global partners covering 99% of our total spend on global vendors by December 2017.

To monitor the adherence of our suppliers to the RSP, in 2019 we rolled out STEP (Sustainable Transformation Enables Performance), the supplier due diligence and performance program, with the aim to regularly evaluate suppliers' status in social, environmental, and business integrity compliance and to address gaps within our RSP or other commitments.

STEP is based on the risk management approach that guides our supply chain due diligence management framework. It serves as the backbone for sustainably managing our first-tier suppliers; in some cases, second-tier suppliers are also included. Through STEP, suppliers are requested to answer a set of questions related to environmental compliance including if they have in place a procedure to regularly update their register

of applicable environmental legislation and regulations, through which the compliance with regulations and/or mandatory standards are addressed. In addition, high-risk suppliers undergo a desktop audit. According to the questionnaire results and, as applicable, desktop audit, the supplier risk profile may be re-evaluated and require further due diligence. E.g., a medium-risk supplier that did not achieve the minimum acceptable RSP compliance will be required to undergo a desktop and/or an on-site audit. Following both types of audits, corrective action plans are defined and implemented. PMI considers these programs and tools to be sufficient to ensure legal compliance within operations and supply chain, as these are aligned with all local regulation as well as PMI's policies, which are often more stringent. Our final objective is to support suppliers to continuously improve their practices to meet our requirements and improve the overall working and living conditions within our supply chain. Tracking and reporting on our suppliers' performance, both internally and externally, will drive transparency. In addition, we will continue to look for further opportunities to collaborate with our suppliers in specific projects to improve their sustainability performance.

Climate change related benefit

Emissions reductions (mitigation)

Increasing resilience to climate change (adaptation)

Comment

Management practice reference number

MP2

Management practice

Other, please specify

Good Agricultural Practices Program

Description of management practice

Tobacco growing, harvesting and curing account for around 23 percent of our carbon footprint. We are working with farming communities to reduce the environmental footprint of tobacco curing and growing. We do that through our Good Agricultural Practices (GAP) program and strategic initiatives such as curing barn improvements and reforestation. GAP lays out extensive agricultural environmental practices for farmers to adopt; these practices cover effective farming techniques, the safe storage, handling and use of chemicals (crop protection agents), water and waste management, energy and raw material efficiency. GAP also covers soil management/conservation, biodiversity and the sustainable use of wood. GAP implementation helps us deliver on our 2020 target for CO2 reduction in our value chain.

Your role in the implementation

Financial

Knowledge sharing

Explanation of how you encourage implementation

We mandate GAP implementation for all PMI tobacco suppliers. Our Leaf department supports our suppliers in implementing GAP and, where we directly contract farmers, our field technicians provide direct support and recommendations. We allocate an annual budget to initiatives to catalyze the adoption of improved and innovative practices by the farmers in our supply chain (i.e.: in 2019 \$4.5 million for initiatives specific to environmental related topics such as climate change, water security and combat deforestation). Similar yearly expenditure is expected over the next 10 years.

Climate change related benefit

Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)

Comment

C-AC12.2b/C-FB12.2b/C-PF12.2b

(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?

Yes

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Trade associations
Other

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

U.S. Council for International Business (USCIB)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

One of the main areas of focus of the USCIB is sustainable development. They state that the "economic growth and energy of the U.S. depends on international regulations that promote strong private-sector role in wise management and use of resources, effective environmental stewardship and greener growth and needs: (1) Sustainable Cost-effective, science and risk-based cooperative environmental and energy policies to address the challenges of climate change while protecting energy security, promoting innovation and efficiency and advancing resilience to climate impacts; and provide multilateral solutions to trans-boundary environment, energy and climate challenges, and reject unilateral, arbitrary measures that disqualify technology or energy options; and (2) Pro-growth, market oriented policies that promote sustainable development to develop multilateral and national partnership frameworks to incentivize private sector involvement in sustainable development planning, implementation and risk allocation minimization; and maintain technology neutral policies and other enabling frameworks to encourage trade and investment in cleaner technologies and energy sources.

How have you influenced, or are you attempting to influence their position?

Our trade association memberships relate to specific business priorities which do not currently include climate change. We are not currently involved in, nor do we influence, trade association positions on climate change.

Trade association

National Center for Asia-Pacific Economic Cooperation

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

APEC have supported the development of an energy strategy study which includes: "Expand and Diversify Supply of Energy Resources; Promote Conservation and Improve Efficiency; Promote Open and Efficient Energy Markets; Clean Energy Use and Technology Innovation."

How have you influenced, or are you attempting to influence their position?

Our trade association memberships relate to specific business priorities which do not currently include climate change. We are not currently involved in, nor do we influence, trade association positions on climate change.

Trade association

US ASEAN Business Council

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Their Energy Committee covers broad energy improvement topics including energy efficiency and renewables.

How have you influenced, or are you attempting to influence their position?

Our trade association memberships relate to specific business priorities which do not currently include climate change. We are not currently involved in, nor do we influence, trade association positions on climate change.

Trade association

EconomieSuisse

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Energy and Environment section: "Climate protection concerns us all and Swiss business is pointing the way. Based on voluntary measures it has successfully charted a path of CO2 reduction and continues to stay the course. Innovation in this sector is doubly advantageous: resource-friendly processes help cut costs and may evolve into business ideas. Regardless of any decision for or against certain technologies we promote a reliable, affordable, and environmentally friendly energy supply...."

How have you influenced, or are you attempting to influence their position?

Our trade association memberships relate to specific business priorities which do not currently include climate change. We are not currently involved in, nor do we influence, trade association positions on climate change.

Trade association

U.S. Chamber of Commerce

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The U.S. Chamber of Commerce supports U.S. participation in the Paris Agreement. The Chamber is an official observer to the United Nations Framework Convention on Climate Change (UNFCCC) and continues to work with its overseas partners to pursue international collaboration between governments and businesses. As part of the ongoing efforts, the U.S. Chamber has launched a Member Task Force on Climate Action to help better understand the range of mechanisms, innovations, and internal processes that businesses are engaging to confront climate change. The Chamber believes that effective climate policy should require strategic government support, including robust federal programs that help companies develop and adopt commercially viable clean energy technologies, embrace innovation and improve energy efficiency on both supply and demand; and promote climate-resilient infrastructures.

How have you influenced, or are you attempting to influence their position?

Our trade association memberships relate to specific business priorities which do not currently include climate change. We are not currently involved in, nor do we influence, trade association positions on climate change.

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

We work with not-for-profit organizations and governments to support communities on environmental sustainability topics including sustainable forestry, reforestation, controlled use of pesticides in agriculture, sustainable rural living conditions and education; all of these can have an influence on climate change improvement, adaptation and mitigation. In 2019, PMI supported projects to protect and enhance natural resources, implement conservation agriculture, provide clean water, cater for food security, and improve the livelihoods of people living in rural communities. Selected examples include: - Our efforts to replace cigarettes with smoke-free products will require less tobacco and reduce the associated carbon emissions, however this may adversely impact the livelihood of our farmers. We are thus proactively supporting crop diversification to prepare for this market shift. We follow a multi-stakeholder approach involving suppliers, NGOs, and other companies active in the agricultural sector. E.g., PMI is partnering with the USAID's "Feed the Future" Agriculture Diversification Activity in Malawi to diversify smallholder farmers' crop production. Additionally, in 2019, we worked together to develop a household welfare survey that will be used to monitor and evaluate the impact of Diversification and other Sustainable Agriculture initiatives on farmer household welfare. Malawi was selected as one of the priority markets for our diversification efforts as tobacco accounts for more than half of the country's export earnings. We work with our tobacco suppliers and their farmers to introduce complementary crops for food and for additional sources of income. Complementary crops identified are now expanded to commercial levels, while trials remain to identify better high-yielding, disease-resistant, and drought-tolerant varieties of groundnuts and soybeans amongst others. Water is key to the success of these initiatives as it gives the smallholder farmer the ability to grow crops outside the rainy season. We promote and test solutions collaborating with a company specialized in precision irrigation, making available solar boreholes, storage tanks and testing different irrigation technologies. In Mozambique, we have partnered with a global NGO, Business for Development, and our local supplier, to expand trials for complementary crops for smallholder farmers covering flaking maize, cotton and potatoes and key discussions are at an advanced stage with two potential off-take partners in setting up new supply chains. - Climate change will increase the frequency and severity of extreme weather events. Our disaster and emergency relief support helps communities around the world rebuild after a crisis. In 2019, PMI donated over \$1.2 million to support communities' disaster relief efforts and made charitable donations valued at around \$15 million, supporting 145 projects carried out with 128 partners across 39 countries. - Community investments to help manage social and environmental impacts associated with our value chain. In 2019, we continued supporting multi-stakeholder initiatives on environmental topics by, for example, signing up the Brazilian Business Commitment to Water Security, a coalition of companies led by the Brazilian branch of the World Business Council for Sustainable Development. Our commitment includes the implementation of the Alliance for Water Stewardship (AWS) Standard and a partnership with tobacco growers to restore

degraded river banks (Water Guardian Project). Moreover, and with the intention to advance progress in achieving SDG 13 (take urgent action to combat climate change and its impacts), as business leads the transition to a low-carbon economy, PMI supports and is member of sustainability related organizations — like the World Business Council for Sustainable Development (WBCSD), Business for Social Responsibility (BSR), Sustainable Brands (SB), and the We Mean Business Coalition — who help harness the power of collaboration to implement solutions at scale, as we believe that partnerships and collaborative efforts can help change happen faster and go further. Our affiliates are also members of other national business associations which are engaging with Governments to advance progress on SDG 13. For example, in Indonesia, in September 2019, through a local business association, PMI's affiliate submitted to the Ministry of Industry data and information regarding the solar energy implementation and development plans at its facilities, pointing out obstacles and challenges experienced, to inform future policy developments in this area.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

PMI operates within an overarching Code of Conduct to a set of internal policies, which we call our Guidebook for Success. These policies cover our mandatory requirements and processes in relation to environment, health and safety (EHS) and sustainability, which includes our climate change strategy; corporate contributions; and interaction with government officials, among others. Our engagement activities take place across all relevant business functions and geographies where we operate and are consistent with our climate change strategy. In line with our intention to advance progress in achieving SDG 13 (take urgent action to combat climate change and its impacts), as business leads the transition to a low-carbon economy, PMI supports and is member of sustainability related organizations who help harness the power of collaboration to implement solutions at scale. We believe that partnerships and collaborative efforts can help change happen faster and go further. Our affiliates are also members of national business associations which are engaging with Governments to advance progress on SDG 13. We conduct due diligence to ensure consistency with our Code and Principles, and to check potential compliance and reputation issues when joining trade associations. We belong to many carefully selected business and trade associations around the world. We work with these groups because they represent our industry and the larger business community in policy discussions on issues where we have a common interest or objective. Our support to these organizations and groups is designed to comply with applicable laws and our own principles and practices. We routinely evaluate our participation to ensure that the groups' objectives align with the long-term interests of PMI and its shareholders, and that their activities continue to reflect PMI's values and high standards of conduct. There are times when we may not agree with certain positions adopted by the organizations we support. In these instances, we may choose to withdraw our participation or support. Other external facing activities related to climate change are also reviewed by our External Affairs and Sustainability Team to ensure consistency with our climate change strategy. In early 2019 the Chief Sustainability Officer (CSO) role was formally established in the company. In 2019, the CSO reported to the President External Affairs and General Counsel, a member of the Company Management. The

CSO leads the integration of sustainability across our business, and heads PMI's sustainability team. He is a member of the External Engagement Committee (EEC) and, at least once a year, updates the Nominating and Corporate Governance Committee of the Board on progress. From an operational perspective, our Operations Sustainability and Corporate Sustainability functions coordinate the company's climate change mitigation actions. Most of the coordination takes place in the context of sustainability working groups and with local market coordinators. This helps ensure that any policy, engagement activities from any business division or geography remain consistent with global strategies, including our company's strategy on climate change; and that programs can be implemented at the market level and local realities are reflected in our global efforts. We have embedded Climate protection within our overall business strategy, our Guidebook for Success (Code of Conduct), our PMI's Environmental Commitment, our Responsible Sourcing Principles (RSP) and Good Agricultural Practices (GAP). We have integrated climate-related issues into normal business activities, it forms part of our annual Long-Range Planning process which reviews and sets business direction, objectives and performance appraisal process. In 2019, the strategy was developed/reviewed based on prior year performance, sustainability commitments and objectives, regulatory/external developments, risk/opportunity assessments, stakeholder interest and business changes, through functional management teams across business divisions and geographies up to our Company Management.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

 PMI-10k.pdf

 2020-03-23 Bookmarked Proxy Statement PDF 832372_002_Web_BMK - Final.pdf

 pmi-integrated-report-2019.pdf

Page/Section reference

Integrated report: summary of financial, environmental (including climate change), social and governance performance (p4-5), commentary from the CEO (p6-7), details on environmental performance (p133-169). 10-K: response to environmental regulation (including climate change; p5), climate-related risks and their potential impact on the supply chain (p9-10). Proxy statement: summary on sustainability performance (p9).

Content elements

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics

Comment

PMI has an Integrated Report in place which describes how the company creates value over the short, medium and long terms. Additionally, PMI integrates climate-related elements regarding the company's climate related risks and response as part of its 10-K and Proxy statement. In its journey towards integrated reporting, PMI published its first Integrated Report in 2019 in accordance with the GRI Standards: core option, which includes an integrated overview of PMI's performance, covering, among others, also financial information. Its contents are shaped by a formal materiality assessment, which takes into account stakeholder perspectives as well as our impacts on sustainable development. Climate protection is assessed as tier 1 topic for PMI, for which an extensive program is in place.

We periodically conduct a climate change risk and opportunities assessment to fully understand PMI's impact across our entire value chain. This work aligns with international expectations such as the Paris Agreement to mitigate and adapt to climate impacts.

Scenario analysis formed part of the climate change risk and opportunities assessment we conducted in 2015 on physical risks and opportunities. Throughout 2018 and 2019, we updated that earlier risk assessment, accounting for changes in PMI's footprint and business model. Our objective was also to further align our work and reporting with the recommendations of the TCFD, which aims to foster voluntary climate-related disclosures that provide clear, reliable, and useful information to the financial community.

The updated assessment identified climate change risks and opportunities (CCRO) that align with the TCFD transition and physical risk categorizations. Throughout this process, we mapped 149 CCROs across materiality and certainty and then divided them according to PMI's risk categories: proactive, reactive, nonmaterial, watch, and potential quick wins, so we could better integrate them into the business. After further analysis, it was decided to prioritize the proactive CCROs, as they have the highest certainty and materiality levels.

C13. Other land management impacts

C-AC13.2/C-FB13.2/C-PF13.2

(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?

Yes

C-AC13.2a/C-FB13.2a/C-PF13.2a

(C-AC13.2a/C-FB13.2a/C-PF13.2a) Provide details of those management practices implemented by your suppliers that have other impacts besides climate change mitigation/adaptation.

Management practice reference number

MP1

Overall effect

Positive

Which of the following has been impacted?

Other, please specify

Environmental Management

Description of impacts

In addition to greenhouse gas emissions, environmental impacts of our suppliers can include impacts to:

- Air, such as through sulfur dioxide emissions from burning fuel oil in boilers which can lead to acid rain;
- Water, such as wastewater discharge from plating operations, which can lead to poisoning of fish and metal contamination of plants;
- Soil, such as through leakages from storage tanks which could lead to soil contamination

Have any response to these impacts been implemented?

Yes

Description of the response(s)

The environment section of our Responsible Sourcing Principles (RSP) and Implementation Guidelines covers environmental compliance and management, and resource consumption and waste minimization. Our RSP encourages suppliers to review, identify and minimize their environmental impacts.

Management practice reference number

MP2

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil
 Other, please specify
 Human Health & Labor Practices

Description of impacts

The environmental impact of tobacco farming can be significant, and the GAP program is therefore crucial for managing and reducing our overall environmental footprint.

In addition to greenhouse gas emissions, traditional tobacco farming uses hazardous Crop Protection Agents (CPA) that have adverse impacts on biodiversity, soil, water and human health.

Have any response to these impacts been implemented?

Yes

Description of the response(s)

Due to the nature of PMI’s business, there are no significant impacts on biodiversity or deforestation from our own operations. Where we do have a larger role to play on biodiversity is in our supply chain. Impacts linked to tobacco farming are addressed through our Good Agricultural Practices program for tobacco suppliers, where we describe our requirements for good environmental practices, including integrated pest management and soil conservation practices, as well as biodiversity management.

GAP provides guidance on biodiversity management practices and requires our tobacco suppliers to develop and implement a biodiversity management plan that incorporates, and goes beyond compliance with the applicable laws, and regulations for tobacco- and forest-growing areas. Tobacco production areas must not be located in places that could cause negative effects on national parks, wildlife refuges, biological corridors, forestry reserves, buffer zones, or other public or private biological conservation areas.

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Executive Officer (CEO)	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Philip Morris International Inc. (PMI) is a leading international tobacco company. PMI has its executive headquarters in New York, US, has its primary listing on the New York Stock Exchange (NYSE: PM), and has its Operations Center in Lausanne, Switzerland. PMI manufactures and sells cigarettes, smoke-free products and associated electronic devices and accessories, and other nicotine-containing products in markets outside of the U.S. We have a wide range of cigarette brands, including the world's best-selling international cigarette Marlboro. Our smoke-free product portfolio includes heat-not-burn and nicotine-containing vapor products. In 2019, PMI net revenues amounted to USD 29.8 billion excluding excise taxes on products worth USD 50.2 billion, on a like-for-like basis; 18.7% of PMI's net revenues in 2019 related to the sale of smoke-free products. PMI's 2019 total shipment volume for cigarette and heated tobacco units was 766.4 billion (706.7 billion cigarettes and 59.7 billion heated tobacco units).

We are building our future on smoke-free products that are a much better consumer choice than continuing to smoke cigarettes. Our vision is that these products ultimately replace cigarettes to the benefit of adult smokers, society, our company and our shareholders. This ambition is at the very core of our corporate strategy and sits atop our sustainability priorities. For PMI, sustainability means creating long term value while minimizing the negative externalities associated with our products, operations and value chain. We are committed to address the impact on the communities and the environment across our value chain. We have a global footprint: as of December 31, 2019, PMI had a workforce of around 73,500 people worldwide and operated 38 production facilities globally. In 2019, our tobacco was sourced from over 335,000 contracted farmers across 24 countries, and our products were sold in over 180 markets.

To help us prioritize our focus and resources in areas where we can have the greatest impact, we refreshed our sustainability materiality analysis in 2019. Climate protection, littering prevention and product eco-design and circularity are tier 1 environmental topics that are prioritized in our sustainability strategy.

Engagement beyond our own operations is key, as this is where the most significant sustainability impacts occur, especially when it comes to climate change and carbon emissions.

Our business has a significant, global supply chain organized by five main categories:

1. Agricultural products: ranging from tobacco growers to producers of other agricultural products, such as clove, menthol and guar gum.
2. Direct materials used to produce cigarettes and other tobacco products, such as acetate tow (for cigarette filters) and paper (both cigarette paper and for packaging materials).
3. Machines for our cigarette and heated tobacco products factories, a highly specialized industry.

- 4. Electronic devices for heated tobacco and vapor products.
- 5. Goods and services that are not specific to the tobacco business, but essential for any business, such as office equipment etc.

As a responsible business, we want to understand and continuously address potential sustainability issues in our global supply chain. We are working with business partners to proactively identify, manage, and reduce risks, and create shared value. The description above is a summary and is qualified in its entirety by reference to the full text of PMI's Annual Report on Form 10-K for the year ended 2019 filed with the U.S. Securities and Exchange Commission, and the full text of PMI's Integrated Report 2019.

Remarks for this disclosure:

- In this submission, "PMI," "we," "us" and "our" refer to Philip Morris International Inc. and its subsidiaries;
- In this submission, we reference information reported in the 2020 Proxy Statement dated March 26th, 2020; 10-K filed February 7th, 2020 with the SEC; and PMI's Integrated Report 2019;
- Trademarks and service marks in this submission are the registered property of, or licensed by, the subsidiaries of Philip Morris International Inc;
- Expectations, aspirational targets and goals set forth in this submission do not constitute financial projections;
- Smoke-Free Products or Reduced-Risk Products (RRPs) - the terms PMI uses to refer to products that present, are likely to present, or have the potential to present less risk of harm to smokers who switch to these products versus continued smoking. PMI has a range of RRP's in various stages of development, scientific assessment and commercialization;
- Materiality: In this submission and in related communications, the terms "materiality," "material" and similar terms, when used in the context of economic, environmental, and social topics, are defined in the referenced sustainability standards, and are not meant to correspond to the concept of materiality under the U.S. securities laws and/or disclosures required by the US Securities and Exchange Commission.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	29,805,000,000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	US	7181721090

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

S Group

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO₂e

416

Uncertainty (±%)

5

Major sources of emissions

Emissions from scope 1 include fuel used in factories, fleet, warehouses and offices.

Verified

No

Allocation method

Allocation based on the number of units purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The emissions were calculated by extrapolation of PMI wide scope 1 emissions 397, 210 tCO₂e and the total annual volume sold 792,000 (732,000 combustible and 60,000 smoke-free products) million equivalent cigarettes sold and 829 million equivalent cigarette units purchased by the customer in 2019.

Requesting member

S Group

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO₂e

166

Uncertainty (±%)

5

Major sources of emissions

Electricity and district heating used in our factories and offices.

Verified

No

Allocation method

Allocation based on the number of units purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The emissions were calculated by extrapolation of PMI wide scope 2 emissions 158,672 tCO₂e and the total annual volume sold 792,000 (732,000 combustible and 60,000 smoke-free products) million equivalent cigarettes sold and 829 million equivalent cigarette units purchased by the customer in 2019.

Requesting member

S Group

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO₂e

4,316

Uncertainty (±%)

5

Major sources of emissions

Our scope 3 emissions are mainly due to tobacco agriculture and curing, sourcing raw materials like tobacco, paper and cardboard, due to services like marketing or consulting, due to upstream and downstream logistics and other minor impacts like business travel, use phase and end of life of our products.

Verified

No

Allocation method

Allocation based on the number of units purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The emissions were calculated by extrapolation of PMI wide scope 3 emissions 4,126,118 tCO₂e and the total annual volume sold 792,000 (732,000 combustible and 60,000 smoke-free products) million equivalent cigarettes sold and 829 million equivalent cigarette units purchased by the customer in 2019.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

The best source of all our environmental information is our CDP climate response or in PMI 2019's Integrated Report that can be downloaded from our website:

<https://pmidotcom3-prd.s3.amazonaws.com/docs/default-source/sustainability-reports-and-policies/pmi-integrated-report-2019.pdf>

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	We would need detailed bill of materials and emissions per SKU and volumes purchased by each customer
We face no challenges	Extrapolating customer allocation on volume based is not an exercise that require too many complicated information and has proved efficient to provide the right level of information to clients that were requesting inputs for their indirect emissions.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

We have internal capabilities to allocate emissions to customers. If more customers request more information, we will develop dedicated tools to answer to them.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member

S Group

Group type of project

Other, please specify

We seek to partner with our customers and study potential collaborative opportunities. We invite our customers to provide ideas on logistics, packaging designs or operational opportunities that would improve both of our environmental footprints

Type of project

Other, please specify

Partnering to achieve environmental footprint reduction

Emissions targeted

Other, please specify

Partnering to achieve environmental footprint reduction

Estimated timeframe for carbon reductions to be realized

Other, please specify

Ongoing

Estimated lifetime CO₂e savings

0

Estimated payback

Cost/saving neutral

Details of proposal

We seek to partner with our customers and study potential collaborative opportunities. We invite our customers to provide ideas on logistics, packaging designs or operational opportunities that would improve both of our environmental footprints: carbon emissions, water scarcity, waste and littering and deforestation.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC3.1

(SC3.1) Do you want to enroll in the 2020-2021 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2019-2020 Action Exchange initiative?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Investors Customers	Public	Yes, submit Supply Chain Questions now

Please confirm below

I have read and accept the applicable Terms